

## CAPITAL PROJECT JUSTIFICATION 2003-2004

JOB NO: IGS03-02 W.O. # 03-96032-0

TITLE: AIR HEATER ELEMENT REPLACEMENT

DESCRIPTION: Replacement of secondary air heater elements with Air Preheater Company's (Alstom) ClearFlow technology.

JUSTIFICATION: ECONOMIC

RATE OF RETURN: 53%  
PAYBACK PERIOD: 2.0 years  
BENEFIT/COST RATIO: 4.81  
ECONOMIC LIFE: 15 years  
PV SAVINGS: \$1,749,564  
SALVAGE VALUE: \$0

ADDITIONAL DETAIL: This project will replace the aging secondary air heater elements with a newer technology offered by the OEM. This would commence with Unit 2 during the 2004 scheduled outage and finish with Unit 1 in 2005.

Aging of air heater heat transfer elements have raised questions regarding both performance and structural integrity of the transfer surface. Significant advances in air heater technology, since initial installation, now afford us valuable alternatives for air heater and system performance improvement.

In addition, OEM mechanical seal clearance gauges will be installed during element change out.

## CAPITAL PROJECT JUSTIFICATION 2003-2004

### COST ESTIMATE:

|                   | <u>2003-2004</u>  | <u>2004-2005</u> |
|-------------------|-------------------|------------------|
| Engineering Labor | \$ 5,000          | 5,000            |
| IPSC Labor        | \$ 15,000         | 15,000           |
| Contractor Labor  | \$ 750,000        | 750,000          |
| Material          | \$ <u>980,000</u> | <u>980,000</u>   |
| Job Total         | \$1,750,000       | 1,750,000        |

### ALTERNATIVES:

Air Preheater Company's (Alstom) replacement-in-kind. This would reduce air heater differential pressure, but would not provide an increase in savings.

### EFFECT OF DEFERRAL:

Continued increase of air heater differential pressure.

### PROJECT HISTORY:

None.

**IPSC CAPITAL BUDGET 2003-2004  
SUMMARY AND 5-YEAR PLAN**  
(\$1,000's)

| Project #                         | Page # | Title   | 2002-03       | 2003-2004  |            |               |              |               | 2004-2005     | Project Total | Justification |           |                |
|-----------------------------------|--------|---|---------------|------------|------------|---------------|--------------|---------------|---------------|---------------|---------------|-----------|----------------|
|                                   |        |   |               | Eng. Labor | IPSC Labor | Contractor    | Material     | Total         |               |               | Basis         | B/C Ratio | Rate of Return |
| IGS01-03*                         | 45     | Distributed Control System (DCS) Replacement        | 444           | 100        | 123        | 4,825         | 0            | 5,048         | 2,876         | 15,040**      | Obsolescence  |           |                |
| IGS01-08*                         | 48     | Scrubber Outlet Modifications and Rebuild           | 2,800         | 35         | 0          | 1,600         | 265          | 1,900         | 0             | 8,700**       | Regulatory    |           |                |
| IGS01-14*                         | 50     | Replace Bentley-Nevada Vibration Systems            | 78            | 4          | 0          | 200           | 240          | 444           | 444           | 1,009**       | Obsolescence  |           |                |
| IGS01-15*                         | 52     | BFP Torquemeter Replacement                         | 76            | 2          | 2          | 0             | 96           | 100           | 0             | 224**         | Obsolescence  |           |                |
| IGS01-21*                         | 54     | Isophase Bus Duct Cooling                           | 197           | 1          | 0          | 20            | 90           | 111           | 0             | 458**         | Economic      | 15.20     | 82%            |
| IGS01-23*                         | 56     | Boiler Feed Pump Rerate                             | 377           | 1          | 1          | 0             | 374          | 376           | 0             | 861**         | Economic      | 4.42      | 62%            |
| IGS02-03                          | 58     | Generator Step-Up Transformer Cooling Modifications | 260           | 10         | 0          | 75            | 175          | 260           | 0             | 520           | Economic      | 15.20     | 82%            |
| IGS02-04                          | 60     | Generator Monitoring                                | 250           | 10         | 15         | 225           | 0            | 250           | 0             | 500           | Economic      | 15.20     | 82%            |
| IGS02-06*                         | 62     | Turbine Area Sump Pump Replacement                  | 30            | 1          | 2          | 0             | 27           | 30            | 0             | 60            | Economic      | 5.52      | 78%            |
| IGS02-07*                         | 64     | ID Fan Drive Replacements                           | 75            | 5          | 50         | 1,000         | 25           | 1,080         | 2,160         | 8,715**       | Obsolescence  |           |                |
| IGS02-09*                         | 66     | Replace U2 PA Flow Instrumentation                  | 136           | 10         | 0          | 20            | 106          | 136           | 0             | 285**         | Economic      | 10.90     | 115%           |
| IGS02-14                          | 67     | Boiler Modifications                                | 4,575         | 25         | 0          | 2,050         | 2,500        | 4,575         | 0             | 9,150         | Economic      | 15.20     | 82%            |
| IGS02-16*                         | 69     | Forced Oxidation System for Scrubber Reaction Tanks | 3,000         | 4          | 0          | 1,996         | 0            | 2,000         | 0             | 5,000         | Regulatory    |           |                |
| IGS03-01                          | 5      | Miscellaneous Small Projects (See List)             | 0             | 2          | 5          | 9             | 2            | 18            | 0             | 18            | See List      |           |                |
| IGS03-02*                         | 72     | Air Heater Element Replacement                      | 0             | 5          | 15         | 750           | 980          | 1,750         | 1,750         | 3,500         | Economic      | 4.81      | 53%            |
| IGS03-03*                         | 74     | Coal Feed Tube Extensions                           | 0             | 5          | 0          | 50            | 40           | 95            | 90            | 185           | Economic      | 2.31      | 46%            |
| IGS03-04                          | 76     | Unit 2 Burner Modifications                         | 0             | 10         | 10         | 1,480         | 3,000        | 4,500         | 0             | 4,500         | Economic      | 1.24      | 18%            |
| IGS03-05*                         | 78     | U1 Generator Rewind                                 | 0             | 10         | 0          | 75            | 0            | 85            | 10,010        | 10,095        | Economic      | 5.52      | 26%            |
| IGS03-06*                         | 80     | Modicon Upgrade                                     | 0             | 20         | 35         | 0             | 105          | 160           | 165           | 1,170**       | Obsolescence  |           |                |
| IGS03-07                          | 82     | Water Treatment Conductivity Replacement            | 0             | 10         | 40         | 0             | 90           | 140           | 0             | 140           | Obsolescence  |           |                |
| IGS03-08                          | 84     | Upgrade CEM Software to 32 Bit Version              | 0             | 0          | 0          | 115           | 5            | 120           | 0             | 120           | Obsolescence  |           |                |
| IGS03-09*                         | 86     | Flame Scanner Replacement                           | 0             | 25         | 30         | 105           | 260          | 420           | 415           | 835           | Obsolescence  |           |                |
| IGS03-10                          | 88     | AQCS HVAC Capacity Improvement                      | 0             | 5          | 0          | 120           | 0            | 125           | 0             | 125           | Economic      | 1.65      | 27%            |
| IGS03-11                          | 90     | Provide Power Supply to Chimney Mid-Level           | 0             | 1          | 0          | 10            | 5            | 16            | 0             | 16            | Regulatory    |           |                |
| IGS Unidentified Capital Projects |        |   | 0             | 5          | 10         | 10            | 50           | 75            | 0             | 75            |               |           |                |
| <b>IGS Totals</b>                 |        |   | <b>12,298</b> | <b>306</b> | <b>338</b> | <b>14,735</b> | <b>8,435</b> | <b>23,814</b> | <b>17,910</b> | <b>71,301</b> |               |           |                |
| ICS Unidentified Capital Projects |        |   | 0             | 1          | 2          | 0             | 12           | 15            | 0             | 15            |               |           |                |
| <b>Total ICS Capital Projects</b> |        |   | <b>0</b>      | <b>1</b>   | <b>2</b>   | <b>0</b>      | <b>12</b>    | <b>15</b>     | <b>0</b>      | <b>15</b>     |               |           |                |
| <b>Total Capital Projects</b>     |        |   | <b>12,298</b> | <b>307</b> | <b>340</b> | <b>14,735</b> | <b>8,447</b> | <b>23,829</b> | <b>17,910</b> | <b>71,316</b> |               |           |                |

Notes:

1. \* Multi-Year Project
2. \*\*Project Total includes funds from budget years not shown on table, see detailed justification form
3. Gray shaded boxes indicate that this project is part of the plant uprate project

December 20, 2010

File: IGS03-02

Joseph A. Smith, Project Manager  
Alstom Power Inc., Air Preheater Company  
3020 Truax Road  
PO Box 372  
Wellsville, NY 14895

Reference: Intermountain Power Service Corporation Contract 04-45615

Contract Scope Adjustment

Pursuant to the above referenced contract, Division E1, Paragraph 9, this letter is a request for a change in scope of materials being supplied by Alstom Power to IPSC. This change is mandated by the quantity of parts found in satisfactory condition during the Unit 2 SAH rotor modifications.

In addition to these deletions from the order are several adders. These include compensation for overhead costs for modifying the order and a request for additional materials to be supplied. The total credit or amount the contract sum is to be reduced is **\$10,658.00**.

As such IPSC asks that the following items be removed/added from the bill of materials, and that the contract amount be adjusted accordingly.

**IP7\_022003**

| ITEM                        | DESCRIPTION                      | QTY | UNIT | UNIT PRICE | EXT PRICE         |
|-----------------------------|----------------------------------|-----|------|------------|-------------------|
| 1                           | Bypass Seal 99296-T19            | 99  | ea   | \$13       | \$1,287           |
| 2                           | Bypass Holding Strip 67599       | 76  | ea   | \$8        | \$608             |
| 3                           | HE Radial Seal 67511             | 64  | ea   | \$18       | \$1,152           |
| 4                           | HE Radial Holding Strip 67524-T1 | 23  | ea   | \$8        | \$184             |
| 5                           | CE Radial Seal 67791-T3          | 28  | ea   | \$18       | \$504             |
| 6                           | CE Radial Seal 67791-T4          | 30  | ea   | \$18       | \$540             |
| 7                           | CE Radial Holding Strip 78084-T1 | 18  | ea   | \$8        | \$144             |
| 8                           | CE Radial Holding Strip 78084-T2 | 86  | ea   | \$10       | \$860             |
| 9                           | CE Radial Outboard Tab 67953-T2  | 17  | ea   | \$15       | \$255             |
| 10                          | CE Radial Inboard Tab 78083-T3   | 24  | ea   | \$10       | \$240             |
| 11                          | Axial Seals                      | 2   | set  | \$1,940    | \$3,880           |
| 12                          | H&C Post Seals                   | 2   | set  | \$504      | \$1,008           |
| 13                          | CE Seal Clearance Gauges         | 2   | set  | \$2,788    | \$5,575           |
| 14                          | Field Service Engineer           | 1   | week | \$9,740    | \$9,740           |
| <b>Subtotal for Credits</b> |                                  |     |      |            | <b>\$25,977</b>   |
| A                           | PM/Bill Processor Modifications  | 1   | ea   | (\$1,700)  | (\$1,700)         |
| B                           | Drafting to Modify Gauge ER Dwg  | 1   | ea   | (\$419)    | (\$419)           |
| C                           | 2 Sets of H&C Diaphragm Seals    | 2   | ea   | (\$6,600)  | (\$13,200)        |
| <b>Subtotal for Adders</b>  |                                  |     |      |            | <b>(\$15,319)</b> |
| <b>TOTAL CREDIT</b>         |                                  |     |      |            | <b>\$10,658</b>   |

Please sign the bottom of this letter indicating your agreement with the proposed contract changes and remit it to:

George W. Cross  
President and Chief Operations Officer  
Intermountain Power Service Corporation  
850 West Brush Wellman Road  
Delta, UT 84624-9546

Attention: Bret Kent  
Contract Administrator

Sincerely,

George W. Cross  
President and Chief Operations Officer

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Changes in scope of Contract 04-45615 as described in this letter accepted by:

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Joseph A. Smith, Project Manager

bk:bk

cc: Ralph Newberry, IPSC Purchasing  
Bret Kent, IPSC Engineering  
Sheila Bronson, IPSC Accounting

# MEMORANDUM

## INTERMOUNTAIN POWER SERVICE CORPORATION

TO: George W. Cross

Page 1 of 2

FROM: Dennis K. Killian

DATE: October 6, 2004

SUBJECT: Recommended Secondary Airheater Sootblowing Procedure

It is our recommendation that the SAH sootblowing procedures be modified to blow once per 24 hours at 130 psig. This procedure can be implemented immediately on Unit 2. We ask that blowing be as consistent as reasonably possible on the 24-hour schedule. An identical blowing schedule for Unit 1 Secondary Air Heater Sootblowers can be implemented upon completion of the SAH upgrade in March 2005.

The current SAH sootblowing procedure specifies a pressure of 150 psig with a frequency of once per shift. With the conversion of Unit 2 SAH's to the new "Clearflow" configuration, it was the OEM's recommendation to reduce sootblowing pressure and frequency. The "Clearflow" arrangement is easier to clean than the original element configuration, because there are fewer obstructions to the blowing medium and each of the element layers is now directly exposed to the blower nozzles. Any steps IPSC can take to optimize blowing pressure and frequency without degrading outlet temperature performance will extend the life of the new SAH element and reduce auxiliary steam consumption.

This recommendation is the result of the testing performed during August 2004. (Reference memorandum dated July 28, 2004 from Dennis Killian to George Cross titled "Recommended Air Preheater Sootblower Testing for Unit 2".) Data from the test period was evaluated to verify that the difference between the daily minimum and maximum gas side DP values were maintained below the historical value of 2.15 INWC. The results follow:

**Test Matrix**

| <b>Start Date/Time</b>   | <b>Blowing Pressure</b> | <b>Blowing Frequency</b> | <b>Daily Min/Max Differential</b> |
|--------------------------|-------------------------|--------------------------|-----------------------------------|
| 8/3/04 - 0900<br>1 week  | 150 psig                | Once/Shift               | 0.25 INWC                         |
| 8/10/04 - 0900<br>1 week | 130 psig                | Once/Shift               | 0.25 INWC                         |
| 8/17/04 - 0900<br>1 week | 130 psig                | Once/24hrs               | 0.30 INWC                         |

This data clearly demonstrates the ability to control air heater differential pressure within a tight range despite the less frequent, lower pressure blowing procedures. The low, absolute values of this change in differential pressure is indicative of significant improvements in air heater and fan performance.

Performance testing has shown that the modified air heaters have met contract guarantees. Data from the test period shows that the increase of 0.05 INWC in the daily min/max differential results in an unmeasurable effect on air heater performance. The verified performance improvements achieved with these modifications are as follows (comparison data shown is for a normalized unit load of 900MW):

- Decrease in average gas side differential pressure of 3.65 INWC.
- Increase in air temperature leaving SAH of 21°F.
- Decrease in gas temperature leaving SAH of 18°F.

These performance improvements result directly in increased boiler efficiency and recovered fan performance.

Please indicate your approval for this procedural change, by signing below. Any questions may be directed to Bret Kent at ext. 6447.

Approved by:

---

George W. Cross  
President and Chief Operations Officer

DBK/JKH:jmj

cc: Jon Finlinson



# MEMORANDUM

INTERMOUNTAIN POWER SERVICE CORPORATION

TO: George W. Cross Page 1 of 2  
FROM: Dennis K. Killian  
DATE: July 28, 2004  
SUBJECT: Recommended Air Preheater Sootblower Testing for Unit 2

It is our recommendation that testing be performed to optimize the sootblowing pressure and frequency for the Unit 2 Secondary Air Heaters. This memo outlines the proposed test plan for achieving these recommendations.

Currently, sootblowing is performed at a pressure of 150 psig with a frequency of about once per shift (three month average is every 18 hrs) for the Secondary Air Heaters. With the conversion of Unit 2 Secondary Air Heaters to the new "Clearflow" configuration, it is the OEM's recommendation to reduce sootblowing pressure and frequency. The "Clearflow" arrangement is easier to clean than the original element configuration, because there are fewer obstructions to the blowing medium and each of the element layers is now directly exposed to the blower nozzles. Any steps IPSC can take to optimize blowing pressure and frequency will extend the life of the new SAH element.

**Proposed Test Matrix (Each Test to Run for 1 Week)**

| Start Date/Time          | Blowing Pressure | Blowing Frequency | When               |
|--------------------------|------------------|-------------------|--------------------|
| 8/3/04 - 0900<br>1 week  | 150 psig         | Once/Shift        | 0900 &<br>2100 hrs |
| 8/10/04 - 0900<br>1 week | 130 psig         | Once/Shift        | 0900 &<br>2100 hrs |
| 8/17/04 - 0900<br>1 week | 130 psig         | Once/24hrs        | 0900               |

During this test period we ask that blowing be according to the above schedule, and not postponed until completion of the backpass sootblowing cycle. Data during the test will be evaluated to verify that the difference between the daily minimum and maximum air side DP values are maintained below the historical value of 2.15 INWC.

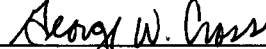
IP7\_022008

This testing will require the support of Maintenance personnel to modify the Unit 2 SAH sootblowing pressures to 130 psig, the morning of August 10 before 9:00 A.M.

Please indicate your approval for this testing, by signing below.

Any questions may be directed to Bret Kent at ext. 6447.

Approved by:

  
\_\_\_\_\_  
George W. Cross  
President and Chief Operations Officer

BK/JKH:jmj

cc: Jon Finlinson  
Stan Smith

IP7\_022009

## MEMORANDUM

### INTERMOUNTAIN POWER SERVICE CORPORATION

TO: George W. Cross

Page 1 of 2

FROM: Dennis K. Killian

DATE: July 28, 2004

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#### Proposed Test Matrix (Each Test to Run for 1 Week)

| Start Date/Time          | Blowing Pressure | Blowing Frequency | When               |
|--------------------------|------------------|-------------------|--------------------|
| 8/3/04 - 0900<br>1 week  | 150 psig         | Once/Shift        | 0900 &<br>2100 hrs |
| 8/10/04 - 0900<br>1 week | 130 psig         | Once/Shift        | 0900 &<br>2100 hrs |
| 8/17/04 - 0900<br>1 week | 130 psig         | Once/24hrs        | 0900               |

During this test period we ask that blowing be according to the above schedule, and not postponed until completion of the backpass sootblowing cycle. Data during the test will be evaluated to verify that the difference between the daily minimum and maximum air side DP values are maintained below the historical value of 2.15 INWC.

This testing will require the support of Maintenance personnel to modify the Unit 2 SAH sootblowing pressures to 130 psig, the morning of August 10 before 9:00 A.M.

Please indicate your approval for this testing, by signing below.

Any questions may be directed to Bret Kent at ext. 6447.

Approved by:

---

George W. Cross  
President and Chief Operations Officer

BK/JKH:jmj

cc: Jon Finlinson  
Stan Smith

| EntryDate             | DeviceId | CommentId |          |
|-----------------------|----------|-----------|----------|
| 8/2/2004 1:17:41 AM   | 402      | 1         |          |
| 8/2/2004 12:46:07 PM  | 402      | 1         | 11:28:26 |
| 8/2/2004 11:07:30 PM  | 402      | 1         | 10:21:23 |
| 8/3/2004 9:27:30 AM   | 402      | 1         | 10:20:00 |
| 8/3/2004 9:28:59 PM   | 402      | 1         | 12:01:29 |
| 8/4/2004 10:36:19 AM  | 402      | 1         | 13:07:20 |
| 8/4/2004 10:56:41 PM  | 402      | 1         | 12:20:22 |
| 8/5/2004 1:46:03 PM   | 402      | 1         | 14:49:22 |
| 8/5/2004 9:47:49 PM   | 402      | 1         | 8:01:46  |
| 8/6/2004 9:18:48 AM   | 402      | 1         | 11:30:59 |
| 8/6/2004 8:49:18 PM   | 402      | 1         | 11:30:30 |
| 8/7/2004 8:37:54 PM   | 402      | 1         | 23:48:36 |
| 8/8/2004 3:13:01 PM   | 402      | 1         | 18:35:07 |
| 8/9/2004 12:09:07 AM  | 402      | 1         | 8:56:06  |
| 8/9/2004 9:31:41 AM   | 402      | 1         | 9:22:34  |
| 8/9/2004 9:15:33 PM   | 402      | 1         | 11:43:52 |
| 8/10/2004 9:25:35 PM  | 402      | 1         | 24:10:02 |
| 8/11/2004 7:24:07 AM  | 402      | 1         | 9:58:32  |
| 8/11/2004 10:21:27 PM | 402      | 1         | 14:57:20 |
| 8/12/2004 10:00:48 AM | 402      | 1         | 11:39:21 |
| 8/13/2004 12:41:13 AM | 402      | 1         | 14:40:25 |
| 8/13/2004 9:29:28 AM  | 402      | 1         | 8:48:15  |
| 8/13/2004 9:50:36 PM  | 402      | 1         | 12:21:08 |
| 8/14/2004 11:48:10 AM | 402      | 1         | 13:57:34 |
| 8/14/2004 9:28:18 PM  | 402      | 1         | 9:40:08  |
| 8/15/2004 9:57:55 AM  | 402      | 1         | 12:29:37 |
| 8/15/2004 9:51:46 PM  | 402      | 1         | 11:53:51 |
| 8/16/2004 10:27:37 AM | 402      | 1         | 12:35:51 |
| 8/17/2004 2:57:08 AM  | 402      | 1         | 16:29:31 |
| 8/17/2004 10:25:14 AM | 402      | 1         | 7:28:06  |
| 8/18/2004 9:11:51 AM  | 402      | 1         | 22:46:37 |
| 8/19/2004 11:07:15 AM | 402      | 1         | 25:55:24 |
| 8/20/2004 11:43:07 AM | 402      | 1         | 24:35:52 |
| 8/21/2004 9:36:06 AM  | 402      | 1         | 21:52:59 |
| 8/22/2004 9:42:00 AM  | 402      | 1         | 24:05:54 |
| 8/23/2004 3:08:20 PM  | 402      | 1         | 29:26:20 |
| 8/24/2004 12:38:29 AM | 402      | 1         | 9:30:09  |
| 8/24/2004 10:47:42 AM | 402      | 1         | 10:09:13 |

Start 9/11/02 12:00 AM  
End 2/28/04 12:00 AM

|                    | SAH 1A GAS S | SAH 1B GAS S | SAH 1A GAS S | SAH 1B GAS S |
|--------------------|--------------|--------------|--------------|--------------|
|                    | 1A MAX       | 1B MAX       | 1A MIN       | 1B MIN       |
|                    | 2SGBPT0216   | 2SGBPT0217   | 2SGBPT0216   | 2SGBPT0217   |
| 11-Sep-02 00:00:00 | 9.431135178  | 9.55931282   | 7.668691158  | 7.7498703    |
| 12-Sep-02 00:00:00 | 9.793694496  | 9.906308174  | 6.599932671  | 6.812646866  |
| 13-Sep-02 00:00:00 | 9.800104141  | 9.793694496  | 7.284462929  | 7.428205013  |
| 14-Sep-02 00:00:00 | 9.462569237  | 9.500106812  | 7.23441267   | 7.337565422  |
| 15-Sep-02 00:00:00 | 9.378032684  | 9.599902153  | 7.034516335  | 6.987517834  |
| 16-Sep-02 00:00:00 | 9.534287453  | 9.534287453  | 6.887417316  | 6.968901634  |
| 17-Sep-02 00:00:00 | 9.453107834  | 9.459517479  | 7.218848228  | 7.378154755  |
| 18-Sep-02 00:00:00 | 9.59074688   | 9.903256416  | 7.584459782  | 7.603076458  |
| 19-Sep-02 00:00:00 | 9.653004646  | 9.875685692  | 7.400128365  | 7.474898338  |
| 20-Sep-02 00:00:00 | 9.200109482  | 9.12808609   | 6.990569592  | 6.824854374  |
| 21-Sep-02 00:00:00 | 8.753013611  | 8.724936485  | 6.646931171  | 6.649983406  |
| 22-Sep-02 00:00:00 | 9.012420654  | 9.015472412  | 6.437574387  | 6.465651512  |
| 23-Sep-02 00:00:00 | 8.573254585  | 8.834498405  | 6.812646866  | 6.859340191  |
| 24-Sep-02 00:00:00 | 8.793602943  | 8.909268379  | 7.153233528  | 7.143772602  |
| 25-Sep-02 00:00:00 | 8.59876442   | 8.734397888  | 6.768700123  | 6.962492943  |
| 26-Sep-02 00:00:00 | 9.518723488  | 9.59074688   | 6.006347656  | 6.206243992  |
| 27-Sep-02 00:00:00 | 9.22513485   | 9.246803284  | 6.943876266  | 6.946928501  |
| 28-Sep-02 00:00:00 | 9.596850395  | 9.959410667  | 6.409497261  | 6.409497261  |
| 29-Sep-02 00:00:00 | 8.872126579  | 8.962370872  | 5.396893024  | 5.293740749  |
| 30-Sep-02 00:00:00 | 8.912625313  | 8.896756172  | 6.759239674  | 6.775109291  |
| 01-Oct-02 00:00:00 | 8.943754196  | 8.871730804  | 6.849879265  | 6.931364059  |
| 02-Oct-02 00:00:00 | 8.514719963  | 8.628192902  | 6.924954891  | 6.893826008  |
| 03-Oct-02 00:00:00 | 8.859523773  | 8.815576553  | 6.393627644  | 6.509293079  |
| 04-Oct-02 00:00:00 | 9.793694496  | 9.856257439  | 7.022003651  | 7.174901485  |
| 05-Oct-02 00:00:00 | 8.437452316  | 8.590655327  | 6.806238174  | 6.709494114  |
| 06-Oct-02 00:00:00 | 8.401469231  | 8.540604591  | 7.40623188   | 7.312540054  |
| 07-Oct-02 00:00:00 | 8.637348175  | 8.862575531  | 7.246925354  | 7.371746063  |
| 08-Oct-02 00:00:00 | 9.412518501  | 9.443647385  | 6.64052248   | 6.790673733  |
| 09-Oct-02 00:00:00 | 8.781395912  | 8.687398911  | 7.12820816   | 7.149876595  |
| 10-Oct-02 00:00:00 | 8.896756172  | 8.968779564  | 6.924954891  | 6.928006649  |
| 11-Oct-02 00:00:00 | 8.940702438  | 9.206213951  | 7.14682436   | 7.056184769  |
| 12-Oct-02 00:00:00 | 8.275094032  | 8.240608215  | 6.122013092  | 6.171758175  |
| 13-Oct-02 00:00:00 | 8.215582848  | 8.493606567  | 6.490676403  | 6.612445354  |
| 14-Oct-02 00:00:00 | 8.250068665  | 8.403271675  | 6.675008297  | 6.602984905  |
| 15-Oct-02 00:00:00 | 8.825037003  | 8.959319115  | 6.868801117  | 6.949980259  |
| 16-Oct-02 00:00:00 | 8.528092384  | 8.800012589  | 6.459242344  | 6.559343338  |
| 17-Oct-02 00:00:00 | 8.575090408  | 8.615680695  | 6.334421635  | 6.443677902  |
| 18-Oct-02 00:00:00 | 8.687398911  | 8.768883705  | 6.46870327   | 6.506240845  |
| 19-Oct-02 00:00:00 | 8.659321785  | 8.70937252   | 6.634418964  | 6.659443855  |
| 20-Oct-02 00:00:00 | 8.865627289  | 8.800527573  | 6.612445354  | 6.671956539  |
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| 22-Oct-02 00:00:00 | 8.999908447  | 9.027985573  | 6.981109142  | 6.587420464  |
| 23-Oct-02 00:00:00 | 8.743858337  | 8.903164864  | 6.943876266  | 6.990569592  |
| 24-Oct-02 00:00:00 | 8.909268379  | 8.868679047  | 6.99697876   | 6.959440708  |
| 25-Oct-02 00:00:00 | 8.639415741  | 8.644629478  | 6.709494114  | 6.968901634  |
| 26-Oct-02 00:00:00 | 9.531235695  | 9.537644386  | 7.115695477  | 7.046723843  |
| 27-Oct-02 00:00:00 | 8.568681717  | 8.70937252   | 6.709494114  | 6.853236675  |

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| 27-Oct-02 23:00:00 | 8.787499428 | 8.727988243 | 6.671956539 | 6.806238174 |
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| 29-Oct-02 23:00:00 | 9.2156744   | 9.231238365 | 6.465651512 | 6.543778896 |
| 30-Oct-02 23:00:00 | 9.103060722 | 9.278237343 | 7.628101349 | 7.574999332 |
| 31-Oct-02 23:00:00 | 8.803064346 | 8.85006237  | 8.099917412 | 7.953123569 |
| 01-Nov-02 23:00:00 | 8.865627289 | 8.856165886 | 7.509384632 | 7.453230381 |
| 02-Nov-02 23:00:00 | 9.662465096 | 9.709464073 | 6.943876266 | 7.009491444 |
| 03-Nov-02 23:00:00 | 9.837641716 | 9.993896484 | 7.40623188  | 7.303079128 |
| 04-Nov-02 23:00:00 | 9.078035355 | 9.087496758 | 6.446730137 | 6.643879414 |
| 05-Nov-02 23:00:00 | 9.725028038 | 9.674978256 | 6.818750381 | 6.693624496 |
| 06-Nov-02 23:00:00 | 9.078035355 | 9.153111458 | 7.243873596 | 7.193822861 |
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| 12-Nov-02 23:00:00 | 8.187505722 | 8.215582848 | 5.996887207 | 5.993835449 |
| 13-Nov-02 23:00:00 | 9.043854713 | 9.006317139 | 5.999938965 | 6.046937466 |
| 14-Nov-02 23:00:00 | 7.928098202 | 7.959227085 | 5.968810081 | 6.118656158 |
| 15-Nov-02 23:00:00 | 7.815485001 | 7.712637901 | 5.612353802 | 5.678273678 |
| 16-Nov-02 23:00:00 | 7.781304359 | 7.928098202 | 5.974913597 | 6.106143475 |
| 17-Nov-02 23:00:00 | 8.431348801 | 8.362377167 | 6.387524128 | 6.38111496  |
| 18-Nov-02 23:00:00 | 7.947020054 | 8.146916389 | 6.365550518 | 6.293832302 |
| 19-Nov-02 23:00:00 | 8.165532112 | 8.065736771 | 6.312448502 | 6.521805286 |
| 20-Nov-02 23:00:00 | 9.365520477 | 9.303262711 | 6.006347656 | 5.993835449 |
| 21-Nov-02 23:00:00 | 9.181188583 | 9.162571907 | 7.078157902 | 6.924954891 |
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| 23-Nov-02 23:00:00 | 8.71883297  | 8.743858337 | 6.415601254 | 6.243782043 |
| 24-Nov-02 23:00:00 | 8.631244659 | 8.856165886 | 7.075106144 | 7.196875095 |
| 25-Nov-02 23:00:00 | 8.618732452 | 8.628192902 | 6.868801117 | 6.912442207 |
| 26-Nov-02 23:00:00 | 8.456374168 | 8.515579224 | 6.528214455 | 6.549882412 |
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| 01-Dec-02 23:00:00 | 8.340708733 | 8.371837616 | 7.215491295 | 7.215491295 |
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| 06-Dec-02 23:00:00 | 8.934293747 | 8.771935463 | 0.490737647 | 0.431226552 |
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| 09-Dec-02 23:00:00 | 8.153019905 | 8.356272697 | 5.924863338 | 5.881221771 |
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| 14-Dec-02 23:00:00 | 8.412426949 | 8.562578201 | 6.793725491 | 6.74672699  |
| 15-Dec-02 23:00:00 | 9.678030014 | 9.618824005 | 6.434522629 | 6.503189087 |
| 16-Dec-02 23:00:00 | 8.787499428 | 8.474989891 | 4.443799973 | 4.46882534  |
| 17-Dec-02 23:00:00 | 7.859431744 | 7.943662643 | 4.806360245 | 4.833859444 |

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| 18-Dec-02 23:00:00 | 8.496963501 | 8.62178421  | 5.775017738 | 5.862605572 |
| 19-Dec-02 23:00:00 | 9.17172718  | 9.265725136 | 7.743766785 | 7.815485001 |
| 20-Dec-02 23:00:00 | 8.684347153 | 8.693807602 | 7.484359264 | 7.443769455 |
| 21-Dec-02 23:00:00 | 7.896969318 | 7.904270649 | 6.137577534 | 6.302987576 |
| 22-Dec-02 23:00:00 | 8.225043297 | 8.206122398 | 6.175115108 | 6.29688406  |
| 23-Dec-02 23:00:00 | 7.746818542 | 8.012634277 | 6.493728638 | 6.668599606 |
| 24-Dec-02 23:00:00 | 8.368785858 | 8.41883564  | 6.081118107 | 6.165654659 |
| 25-Dec-02 23:00:00 | 8.674886703 | 8.684347153 | 6.349986076 | 6.387524128 |
| 26-Dec-02 23:00:00 | 8.628192902 | 8.837550163 | 7.40623188  | 7.409283638 |
| 27-Dec-02 23:00:00 | 8.665730476 | 8.531144142 | 6.57490778  | 6.156193733 |
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| 29-Dec-02 23:00:00 | 9.334391594 | 9.296853065 | 6.615497112 | 6.734519482 |
| 30-Dec-02 23:00:00 | 8.656270027 | 8.840601921 | 6.64052248  | 6.568803787 |
| 31-Dec-02 23:00:00 | 8.459425926 | 8.547014236 | 6.122013092 | 6.146732807 |
| 01-Jan-03 23:00:00 | 8.612628937 | 8.57814312  | 6.565752029 | 6.503189087 |
| 02-Jan-03 23:00:00 | 8.127994537 | 8.25617218  | 6.046937466 | 6.112552166 |
| 03-Jan-03 23:00:00 | 7.856379986 | 7.959227085 | 6.200140476 | 6.103091717 |
| 04-Jan-03 23:00:00 | 8.121891022 | 8.137454987 | 5.746940613 | 5.721915245 |
| 05-Jan-03 23:00:00 | 8.112430573 | 8.453016281 | 6.471755028 | 6.590777397 |
| 06-Jan-03 23:00:00 | 7.778252602 | 7.700125217 | 5.225073814 | 5.178075314 |
| 07-Jan-03 23:00:00 | 8.118839264 | 8.11548233  | 4.156315804 | 4.515518665 |
| 08-Jan-03 23:00:00 | 8.509475708 | 8.431348801 | 6.015503407 | 5.95324564  |
| 09-Jan-03 23:00:00 | 8.737449646 | 8.753013611 | 6.453138828 | 6.549882412 |
| 10-Jan-03 23:00:00 | 9.59074688  | 9.500106812 | 6.771751881 | 6.737571239 |
| 11-Jan-03 23:00:00 | 8.737449646 | 8.771935463 | 6.306344986 | 6.356395245 |
| 12-Jan-03 23:00:00 | 8.900113106 | 8.834498405 | 6.334421635 | 6.415601254 |
| 13-Jan-03 23:00:00 | 8.206122398 | 8.562578201 | 5.946836948 | 5.909298897 |
| 14-Jan-03 23:00:00 | 9.603259087 | 9.556261063 | 5.903195381 | 6.015503407 |
| 15-Jan-03 23:00:00 | 8.209479332 | 8.474989891 | 5.70299387  | 5.734427929 |
| 16-Jan-03 23:00:00 | 10          | 10          | 6.049989223 | 6.200140476 |
| 17-Jan-03 23:00:00 | 8.412426949 | 8.409375191 | 6.587420464 | 6.506240845 |
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| 20-Jan-03 23:00:00 | 8.64375782  | 8.721884727 | 5.59678936  | 5.634327412 |
| 21-Jan-03 23:00:00 | 8.837550163 | 8.956267357 | 6.150090218 | 6.034424782 |
| 22-Jan-03 23:00:00 | 8.712424278 | 8.613747597 | 5.95324564  | 6.031373024 |
| 23-Jan-03 23:00:00 | 8.415478706 | 8.509475708 | 5.822016239 | 6.143681049 |
| 24-Jan-03 23:00:00 | 9.049959183 | 9.378032684 | 5.999938965 | 6.090579033 |
| 25-Jan-03 23:00:00 | 9.093600273 | 9.415570259 | 5.828119755 | 5.709402561 |
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| 27-Jan-03 23:00:00 | 8.19055748  | 8.275094032 | 6.274910927 | 6.353038311 |
| 28-Jan-03 23:00:00 | 8.646809578 | 8.853114128 | 5.850092888 | 6.040528774 |
| 29-Jan-03 23:00:00 | 8.412426949 | 8.64375782  | 6.299935818 | 6.475111961 |
| 30-Jan-03 23:00:00 | 8.715476036 | 8.768883705 | 6.240729809 | 6.365550518 |
| 31-Jan-03 23:00:00 | 8.618732452 | 8.671833992 | 6.206243992 | 6.259346485 |
| 01-Feb-03 23:00:00 | 8.668782234 | 8.82808876  | 6.509293079 | 6.656392097 |
| 02-Feb-03 23:00:00 | 9.281289101 | 9.353007317 | 6.456190586 | 6.665547848 |
| 03-Feb-03 23:00:00 | 8.465529442 | 8.374889374 | 6.331369877 | 6.23126936  |
| 04-Feb-03 23:00:00 | 8.243659973 | 8.356272697 | 6.150090218 | 6.281319618 |
| 05-Feb-03 23:00:00 | 8.449964523 | 8.421888351 | 7.075106144 | 7.124851227 |
| 06-Feb-03 23:00:00 | 8.97488308  | 8.925138474 | 3.527667522 | 3.674503326 |
| 07-Feb-03 23:00:00 | 5.162510872 | 5.14694643  | 0.206305131 | 0.203253269 |



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| 08-Feb-03 23:00:00 | 0.22492142  | 0.212408826 | 0.104645342 | 0.099878512 |
| 09-Feb-03 23:00:00 | 0.231330305 | 0.218817711 | 0.103152566 | 0.096743673 |
| 10-Feb-03 23:00:00 | 0.225624546 | 0.218817711 | 0.214299947 | 0.216019139 |
| 11-Feb-03 23:00:00 | 0.237434    | 0.221869558 | 0.209356979 | 0.196844384 |
| 12-Feb-03 23:00:00 | 0.590533137 | 0.552995384 | 0.106204413 | 0.096743673 |
| 13-Feb-03 23:00:00 | 0.384228021 | 0.528275371 | 0.093691826 | 0.095125429 |
| 14-Feb-03 23:00:00 | 1.184423327 | 1.046231389 | 0.090639971 | 0.075075537 |
| 15-Feb-03 23:00:00 | 1.173681736 | 1.268654466 | 0.133518502 | 0.155415639 |
| 16-Feb-03 23:00:00 | 0.133518502 | 0.155415639 | 0.111596726 | 0.116868682 |
| 17-Feb-03 23:00:00 | 0.111596726 | 0.116868682 | 0.100100711 | 0.103152566 |
| 18-Feb-03 23:00:00 | 0.106204413 | 0.103152566 | 0.090639971 | 0.093691826 |
| 19-Feb-03 23:00:00 | 2.356334209 | 2.343821526 | 0.092610642 | 0.093691826 |
| 20-Feb-03 23:00:00 | 9.318826675 | 9.696950912 | 1.118808508 | 1.090731502 |
| 21-Feb-03 23:00:00 | 9.362468719 | 9.343852043 | 6.756187439 | 6.853236675 |
| 22-Feb-03 23:00:00 | 8.940702438 | 8.993804932 | 3.690603256 | 3.681142569 |
| 23-Feb-03 23:00:00 | 8.70937252  | 8.840601921 | 4.55305624  | 4.537491798 |
| 24-Feb-03 23:00:00 | 8.64375782  | 8.662373543 | 7.809381485 | 7.662587166 |
| 25-Feb-03 23:00:00 | 9.249855042 | 9.175085068 | 6.846827507 | 6.921903133 |
| 26-Feb-03 23:00:00 | 8.537552834 | 8.637348175 | 7.243873596 | 7.478255749 |
| 27-Feb-03 23:00:00 | 9.812616348 | 9.815668106 | 6.675008297 | 6.750083923 |
| 28-Feb-03 23:00:00 | 9.953001022 | 10          | 0.41566211  | 1.780256748 |
| 01-Mar-03 23:00:00 | 1.874810338 | 7.328104496 | 0.372020632 | 1.228064775 |
| 02-Mar-03 23:00:00 | 9.246803284 | 9.271828651 | 1.874810338 | 1.94067204  |
| 03-Mar-03 23:00:00 | 9.168675423 | 9.571825027 | 7.853023052 | 7.787407875 |
| 04-Mar-03 23:00:00 | 8.727988243 | 8.653218269 | 7.656178474 | 7.815485001 |
| 05-Mar-03 23:00:00 | 8.71883297  | 8.78444767  | 7.918637753 | 7.890560627 |
| 06-Mar-03 23:00:00 | 8.868679047 | 8.70937252  | 7.178258419 | 7.16879797  |
| 07-Mar-03 23:00:00 | 8.446912766 | 8.543656349 | 7.74071455  | 7.812433243 |
| 08-Mar-03 23:00:00 | 9.459517479 | 9.537644386 | 7.731254101 | 7.51243639  |
| 09-Mar-03 23:00:00 | 9.024933815 | 9.262367249 | 6.843775749 | 7.078157902 |
| 10-Mar-03 23:00:00 | 9.034394264 | 8.996856689 | 7.890560627 | 7.706228733 |
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| 13-Mar-03 23:00:00 | 9.715567589 | 9.868770599 | 7.046723843 | 7.084261417 |
| 14-Mar-03 23:00:00 | 9.131137848 | 9.281289101 | 7.559434891 | 7.57805109  |
| 15-Mar-03 23:00:00 | 8.915677071 | 9.084445    | 6.662495613 | 6.659443855 |
| 16-Mar-03 23:00:00 | 9.056367874 | 9.331339836 | 7.468794823 | 7.540513515 |
| 17-Mar-03 23:00:00 | 9.22513485  | 9.368877411 | 7.437360764 | 7.490767956 |
| 18-Mar-03 23:00:00 | 8.98739624  | 9.009368896 | 7.412640572 | 7.440717697 |
| 19-Mar-03 23:00:00 | 8.756370544 | 8.940702438 | 7.359233379 | 7.199926853 |
| 20-Mar-03 23:00:00 | 9.268776894 | 9.221777916 | 6.324961185 | 6.081118107 |
| 21-Mar-03 23:00:00 | 8.286733627 | 8.243659973 | 2.83761096  | 2.865688086 |
| 22-Mar-03 23:00:00 | 5.890079021 | 5.696689129 | 2.612384319 | 2.750022888 |
| 23-Mar-03 23:00:00 | 9.368877411 | 9.349955559 | 5.890079021 | 5.696689129 |
| 24-Mar-03 23:00:00 | 9.450056076 | 9.624927521 | 7.843867302 | 7.6842556   |
| 25-Mar-03 23:00:00 | 9.506210327 | 9.531235695 | 7.015594959 | 6.97500515  |
| 26-Mar-03 23:00:00 | 8.875087738 | 8.699911118 | 6.862391949 | 6.768700123 |
| 27-Mar-03 23:00:00 | 9.046907425 | 8.978240013 | 6.112552166 | 6.090579033 |
| 28-Mar-03 23:00:00 | 8.793602943 | 8.778038979 | 6.356395245 | 6.409497261 |
| 29-Mar-03 23:00:00 | 8.224473953 | 8.498570442 | 5.940732956 | 5.996887207 |
| 30-Mar-03 23:00:00 | 8.493606567 | 8.543656349 | 6.637470722 | 6.621906281 |
| 31-Mar-03 23:00:00 | 9.574876785 | 9.218726158 | 7.306131363 | 7.100131035 |

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| 01-Apr-03 23:00:00 | 10          | 10          | 7.462386131 | 7.515488148 |
| 02-Apr-03 23:00:00 | 9.465620995 | 9.615772247 | 7.265541553 | 7.350077629 |
| 03-Apr-03 23:00:00 | 10          | 9.971922874 | 8.337351799 | 8.318735123 |
| 04-Apr-03 23:00:00 | 9.931333542 | 9.740592957 | 7.796868801 | 7.553025723 |
| 05-Apr-03 23:00:00 | 9.915768623 | 9.931333542 | 7.249977112 | 7.193822861 |
| 07-Apr-03 00:00:00 | 8.084353447 | 7.943662643 | 6.356395245 | 6.38111496  |
| 08-Apr-03 00:00:00 | 8.243659973 | 8.193609238 | 6.784264565 | 6.781212807 |
| 09-Apr-03 00:00:00 | 8.399914742 | 8.409375191 | 7.028107643 | 6.918851376 |
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| 13-Apr-03 00:00:00 | 9.846796989 | 9.674978256 | 7.49382019  | 7.634510517 |
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| 15-Apr-03 00:00:00 | 9.712515831 | 9.812616348 | 7.050080776 | 7.034516335 |
| 16-Apr-03 00:00:00 | 8.774987221 | 8.831141472 | 7.171849728 | 7.243873596 |
| 17-Apr-03 00:00:00 | 8.721884727 | 9.046907425 | 7.115695477 | 7.281105995 |
| 18-Apr-03 00:00:00 | 9.140598297 | 9.056367874 | 7.237464428 | 7.190771103 |
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| 20-Apr-03 00:00:00 | 9.031342506 | 9.181188583 | 8.897685051 | 8.990753174 |
| 21-Apr-03 00:00:00 | 9.353007317 | 9.418622017 | 7.6186409   | 7.715689659 |
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| 23-Apr-03 00:00:00 | 9.265725136 | 9.374980927 | 7.42484808  | 7.312540054 |
| 24-Apr-03 00:00:00 | 9.34049511  | 9.118625641 | 7.893612385 | 7.975096703 |
| 25-Apr-03 00:00:00 | 9.390459061 | 9.343113899 | 7.249977112 | 7.44682169  |
| 26-Apr-03 00:00:00 | 9.549852371 | 9.49369812  | 8.474989891 | 8.681295395 |
| 27-Apr-03 00:00:00 | 10          | 10          | 7.187414169 | 7.350077629 |
| 28-Apr-03 00:00:00 | 9.749452591 | 9.899899483 | 7.84691906  | 7.571947575 |
| 29-Apr-03 00:00:00 | 9.818719864 | 9.821771622 | 8.174993515 | 8.146916389 |
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| 01-May-03 00:00:00 | 9.137546539 | 9.10611248  | 7.499923706 | 7.390667439 |
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| 15-May-03 00:00:00 | 10          | 10          | 8.427991867 | 8.068788528 |
| 16-May-03 00:00:00 | 9.087496758 | 9.009368896 | 7.093722343 | 7.199926853 |
| 17-May-03 00:00:00 | 9.909359932 | 10          | 7.656178474 | 7.471846581 |
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| 19-May-03 00:00:00 | 9.649952888 | 9.459517479 | 6.634418964 | 6.671956539 |
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| 21-May-03 00:00:00 | 9.671926498 | 9.765617371 | 6.915494442 | 6.868801117 |
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| 23-May-03 00:00:00 | 9.729791641 | 9.721445084 | 8.146916389 | 7.806329727 |

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| 24-May-03 00:00:00 | 10          | 10          | 8.27814579  | 8.2345047   |
| 25-May-03 00:00:00 | 10          | 9.859309196 | 8.35322094  | 8.32178688  |
| 26-May-03 00:00:00 | 10          | 10          | 5.959349155 | 5.878170013 |
| 27-May-03 00:00:00 | 9.927976608 | 9.787590981 | 6.912823677 | 6.924348354 |
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| 29-May-03 00:00:00 | 10          | 10          | 8.2345047   | 8.512527466 |
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| 31-May-03 00:00:00 | 10          | 10          | 8.687398911 | 8.790551186 |
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| 03-Jun-03 00:00:00 | 9.703054428 | 9.821771622 | 7.774895668 | 8.065736771 |
| 04-Jun-03 00:00:00 | 9.738027573 | 9.768670082 | 7.940610886 | 7.859431744 |
| 05-Jun-03 00:00:00 | 10          | 10          | 8.059328079 | 8.121891022 |
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| 08-Jun-03 00:00:00 | 9.837641716 | 9.927976608 | 7.731254101 | 7.706228733 |
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| 18-Jun-03 00:00:00 | 9.974974632 | 9.793694496 | 7.481307507 | 7.32200098  |
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| 14-Jul-03 00:00:00 | 10          | 10          | 8.181402206 | 8.053224564 |

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| 15-Jul-03 00:00:00 | 10          | 9.984436035 | 9.043854713 | 8.999908447 |
| 16-Jul-03 00:00:00 | 9.856257439 | 9.878231049 | 7.671742916 | 7.871944427 |
| 17-Jul-03 00:00:00 | 9.999194145 | 9.999199867 | 8.749961853 | 8.449964523 |
| 18-Jul-03 00:00:00 | 10          | 10          | 8.565629959 | 8.712424278 |
| 19-Jul-03 00:00:00 | 9.968871117 | 10          | 7.990661144 | 8.025147438 |
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| 21-Jul-03 00:00:00 | 9.996948242 | 9.990539551 | 7.996765137 | 8.009277344 |
| 22-Jul-03 00:00:00 | 10          | 9.962462425 | 8.275094032 | 8.306222916 |
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| 24-Jul-03 00:00:00 | 10          | 9.878231049 | 7.7498703   | 7.709280491 |
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| 26-Jul-03 00:00:00 | 10          | 9.971922874 | 7.06259346  | 7.025055885 |
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| 29-Jul-03 00:00:00 | 9.974974632 | 10          | 7.481307507 | 7.6186409   |
| 30-Jul-03 00:00:00 | 10          | 10          | 8.962370872 | 8.928190231 |
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| 01-Aug-03 00:00:00 | 9.8248806   | 9.831233025 | 9.018830299 | 8.984343529 |
| 02-Aug-03 00:00:00 | 10          | 10          | 2.068849802 | 2.031311989 |
| 03-Aug-03 00:00:00 | 10          | 10          | 7.778252602 | 7.821894169 |
| 04-Aug-03 00:00:00 | 10          | 10          | 8.356272697 | 8.559526443 |
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| 07-Aug-03 00:00:00 | 10          | 10          | 8.818628311 | 8.840601921 |
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| 14-Aug-03 00:00:00 | 10          | 10          | 7.334513187 | 7.287514687 |
| 15-Aug-03 00:00:00 | 10          | 10          | 7.743766785 | 7.678151608 |
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| 19-Aug-03 00:00:00 | 9.918820381 | 10          | 7.178258419 | 7.162388802 |
| 20-Aug-03 00:00:00 | 10          | 10          | 7.337565422 | 7.418744564 |
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| 22-Aug-03 00:00:00 | 10          | 10          | 7.756278992 | 7.86889267  |
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| 25-Aug-03 00:00:00 | 10          | 10          | 8.156376839 | 8.034302711 |
| 26-Aug-03 00:00:00 | 10          | 10          | 7.40623188  | 7.290566921 |
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| 28-Aug-03 00:00:00 | 9.818719864 | 10          | 0           | 7.581102848 |
| 29-Aug-03 00:00:00 | 9.781182289 | 9.818719864 | 7.156285286 | 7.075106144 |
| 30-Aug-03 00:00:00 | 9.621875763 | 9.725028038 | 7.14682436  | 6.990569592 |
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| 01-Sep-03 00:00:00 | 10          | 10          | 7.334513187 | 7.515488148 |
| 02-Sep-03 00:00:00 | 10          | 10          | 7.571947575 | 7.609485149 |
| 03-Sep-03 00:00:00 | 9.903256416 | 9.740592957 | 6.696981907 | 6.762596607 |
| 04-Sep-03 00:00:00 | 9.765617371 | 9.796746254 | 7.712637901 | 7.771843433 |

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| 05-Sep-03 00:00:00 | 9.818719864 | 9.987487793 | 7.025055885 | 6.978057384 |
| 06-Sep-03 00:00:00 | 9.775078773 | 9.703054428 | 7.6842556   | 7.621997833 |
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| 09-Sep-03 00:00:00 | 9.931333542 | 9.92492485  | 0           | 0           |
| 10-Sep-03 00:00:00 | 9.953001022 | 9.849848747 | 7.515488148 | 7.440717697 |
| 11-Sep-03 00:00:00 | 9.784234047 | 9.849848747 | 7.06259346  | 6.874904633 |
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| 13-Sep-03 00:00:00 | 9.293801308 | 9.343852043 | 6.649983406 | 6.565752029 |
| 14-Sep-03 00:00:00 | 9.331339836 | 9.487594604 | 6.765648365 | 6.915494442 |
| 15-Sep-03 00:00:00 | 9.856257439 | 9.903256416 | 7.118747711 | 7.290566921 |
| 16-Sep-03 00:00:00 | 9.959410667 | 10          | 0.028077029 | 0           |
| 17-Sep-03 00:00:00 | 9.840693474 | 9.674978256 | 7.381206512 | 7.359233379 |
| 18-Sep-03 00:00:00 | 9.72197628  | 9.747001648 | 6.853236675 | 6.968901634 |
| 19-Sep-03 00:00:00 | 9.890744209 | 9.821771622 | 7.068696976 | 7.006134033 |
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| 22-Sep-03 00:00:00 | 9.931333542 | 9.97802639  | 7.12820816  | 7.009491444 |
| 23-Sep-03 00:00:00 | 9.946897507 | 10          | 7.156285286 | 7.243873596 |
| 24-Sep-03 00:00:00 | 9.756156921 | 9.881282806 | 6.918851376 | 6.987517834 |
| 25-Sep-03 00:00:00 | 9.92492485  | 9.837641716 | 6.687520981 | 6.828211308 |
| 26-Sep-03 00:00:00 | 9.731131554 | 9.865718842 | 7.209387302 | 7.396770954 |
| 27-Sep-03 00:00:00 | 9.768670082 | 9.825128555 | 7.662587166 | 7.590563774 |
| 28-Sep-03 00:00:00 | 9.803155899 | 9.790642738 | 7.471846581 | 7.559434891 |
| 29-Sep-03 00:00:00 | 9.890744209 | 10          | 7.818841934 | 7.499923706 |
| 30-Sep-03 00:00:00 | 10          | 10          | 0.243842885 | 0.340586573 |
| 01-Oct-03 00:00:00 | 9.818719864 | 9.940488815 | 7.903073311 | 7.818841934 |
| 02-Oct-03 00:00:00 | 9.884334564 | 9.881282806 | 7.659230232 | 7.693716049 |
| 03-Oct-03 00:00:00 | 9.927976608 | 9.921872139 | 7.306131363 | 7.40623188  |
| 04-Oct-03 00:00:00 | 9.768670082 | 9.871822357 | 7.6842556   | 7.887508869 |
| 05-Oct-03 00:00:00 | 10          | 10          | 7.531357765 | 7.703176975 |
| 06-Oct-03 00:00:00 | 10          | 9.953001022 | 7.246925354 | 7.356181622 |
| 07-Oct-03 00:00:00 | 10          | 10          | 7.543870449 | 7.306131363 |
| 08-Oct-03 00:00:00 | 10          | 10          | 8.021790504 | 7.971739769 |
| 09-Oct-03 00:00:00 | 10          | 10          | 7.509384632 | 7.549973965 |
| 10-Oct-03 00:00:00 | 10          | 10          | 7.481307507 | 7.393719196 |
| 11-Oct-03 00:00:00 | 9.803155899 | 9.65039444  | 7.022003651 | 7.153233528 |
| 12-Oct-03 00:00:00 | 9.809259415 | 10          | 7.031159401 | 6.978057384 |
| 13-Oct-03 00:00:00 | 9.725028038 | 9.690542221 | 6.981109142 | 6.968901634 |
| 14-Oct-03 00:00:00 | 9.599902153 | 9.815668106 | 6.756187439 | 6.99697876  |
| 15-Oct-03 00:00:00 | 9.927976608 | 10          | 7.231360912 | 7.087618828 |
| 16-Oct-03 00:00:00 | 9.753105164 | 9.843745232 | 7.290566921 | 7.30002737  |
| 17-Oct-03 00:00:00 | 9.890744209 | 9.940488815 | 7.484359264 | 7.393719196 |
| 18-Oct-03 00:00:00 | 9.887386322 | 9.887386322 | 7.809381485 | 7.562486649 |
| 19-Oct-03 00:00:00 | 9.931333542 | 9.95635891  | 7.543870449 | 7.42484808  |
| 20-Oct-03 00:00:00 | 9.953001022 | 9.859309196 | 7.393719196 | 7.453230381 |
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| 22-Oct-03 00:00:00 | 9.906308174 | 9.92492485  | 5.143894672 | 4.978179455 |
| 23-Oct-03 00:00:00 | 9.968871117 | 9.931333542 | 7.090670586 | 7.022003651 |
| 24-Oct-03 00:00:00 | 9.784234047 | 9.718695641 | 7.384258747 | 7.468794823 |
| 25-Oct-03 00:00:00 | 9.718619347 | 9.793694496 | 6.265755177 | 6.196783543 |
| 26-Oct-03 00:00:00 | 9.856257439 | 9.815668106 | 7.018646717 | 6.881313324 |

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| 26-Oct-03 23:00:00 | 9.715567589 | 9.849848747 | 6.993621826 | 7.112643719 |
| 27-Oct-03 23:00:00 | 9.631336212 | 9.737541199 | 6.893826008 | 7.050080776 |
| 28-Oct-03 23:00:00 | 9.756156921 | 9.890744209 | 7.393719196 | 7.509384632 |
| 29-Oct-03 23:00:00 | 9.653004646 | 9.659413338 | 7.106235027 | 7.187414169 |
| 30-Oct-03 23:00:00 | 9.750053406 | 9.834284782 | 7.328104496 | 7.12820816  |
| 31-Oct-03 23:00:00 | 9.556261063 | 9.47172451  | 7.112643719 | 7.075106144 |
| 01-Nov-03 23:00:00 | 10          | 9.837641716 | 7.6186409   | 7.765739918 |
| 02-Nov-03 23:00:00 | 9.831233025 | 9.91241169  | 7.393719196 | 7.296975613 |
| 03-Nov-03 23:00:00 | 9.812616348 | 10          | 6.993621826 | 7.028107643 |
| 04-Nov-03 23:00:00 | 9.549852371 | 9.65636158  | 7.484359264 | 7.709280491 |
| 05-Nov-03 23:00:00 | 9.537644386 | 9.49369812  | 6.834314823 | 6.809289932 |
| 06-Nov-03 23:00:00 | 9.206213951 | 9.437543869 | 6.693624496 | 6.681112289 |
| 07-Nov-03 23:00:00 | 9.959410667 | 9.853205681 | 7.206335545 | 6.946928501 |
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| 09-Nov-03 23:00:00 | 9.72197628  | 9.596850395 | 7.259438038 | 7.025055885 |
| 10-Nov-03 23:00:00 | 9.931333542 | 9.962462425 | 6.615497112 | 6.806238174 |
| 11-Nov-03 23:00:00 | 9.818719864 | 9.731131554 | 6.993621826 | 6.943876266 |
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| 13-Nov-03 23:00:00 | 9.353007317 | 9.268776894 | 6.725058556 | 6.778161049 |
| 14-Nov-03 23:00:00 | 9.090548515 | 8.97488308  | 7.562486649 | 7.443769455 |
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| 18-Nov-03 23:00:00 | 8.978240013 | 9.031342506 | 6.821802616 | 6.753135681 |
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| 24-Nov-03 23:00:00 | 8.78444767  | 8.550065994 | 6.478164196 | 6.46870327  |
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| 29-Nov-03 23:00:00 | 9.249855042 | 9.137546539 | 7.050080776 | 6.971953392 |
| 30-Nov-03 23:00:00 | 9.190649033 | 9.133324623 | 7.759331226 | 7.746818542 |
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| 02-Dec-03 23:00:00 | 9.116994858 | 9.153111458 | 6.668599606 | 6.681112289 |
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| 04-Dec-03 23:00:00 | 8.953215599 | 8.971831322 | 6.912442207 | 7.075106144 |
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| 06-Dec-03 23:00:00 | 9.287392616 | 9.175085068 | 6.812646866 | 6.815698624 |
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| 08-Dec-03 23:00:00 | 10          | 9.790642738 | 0.028077029 | 0.006103702 |
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| 15-Dec-03 23:00:00 | 8.544521332 | 8.571733475 | 7.837458611 | 7.824945927 |
| 16-Dec-03 23:00:00 | 9.92492485  | 10          | 6.568803787 | 6.628009796 |

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| 17-Dec-03 23:00:00 | 9.40610981  | 9.503158569 | 6.068605423 | 6.100039482 |
| 18-Dec-03 23:00:00 | 9.071931839 | 8.906216621 | 6.656392097 | 6.609393597 |
| 19-Dec-03 23:00:00 | 9.087496758 | 9.265725136 | 5.42497015  | 5.346842766 |
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| 24-Dec-03 23:00:00 | 9.027985573 | 9.06247139  | 6.593829155 | 6.578264713 |
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| 27-Dec-03 23:00:00 | 9.1500597   | 8.990753174 | 7.143772602 | 7.040620327 |
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| 04-Jan-04 23:00:00 | 8.978240013 | 8.893704414 | 6.271858692 | 6.418653011 |
| 05-Jan-04 23:00:00 | 9.218726158 | 8.962370872 | 7.262489796 | 7.215491295 |
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| 11-Jan-04 23:00:00 | 8.62178421  | 8.575090408 | 6.415601254 | 6.396984577 |
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| 15-Jan-04 23:00:00 | 8.559526443 | 8.531144142 | 6.440626144 | 6.340525627 |
| 16-Jan-04 23:00:00 | 8.593707085 | 8.790551186 | 6.796777248 | 6.818750381 |
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| 24-Jan-04 23:00:00 | 8.484451294 | 8.584246635 | 0           | 0           |
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| 27-Jan-04 23:00:00 | 8.884243011 | 8.959319115 | 6.53431797  | 6.406140327 |
| 28-Jan-04 23:00:00 | 9.278237343 | 9.415570259 | 6.756187439 | 6.725058556 |
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| 31-Jan-04 23:00:00 | 8.859523773 | 8.928190231 | 8.187505722 | 8.099917412 |
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| 05-Feb-04 23:00:00 | 8.424940109 | 8.462477684 | 7.350077629 | 7.44682169  |
| 06-Feb-04 23:00:00 | 9.265725136 | 9.299905777 | 7.350077629 | 7.34061718  |



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| 07-Feb-04 23:00:00 | 8.651571274 | 8.603210449 | 6.887417316 | 6.759239674 |
| 08-Feb-04 23:00:00 | 9.553209305 | 9.58128643  | 7.165746212 | 7.093722343 |
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| 24-Feb-04 23:00:00 | 8.951292992 | 9.243751526 | 6.328012943 | 6.365550518 |
| 25-Feb-04 23:00:00 | 9.362468719 | 9.212622643 | 6.53431797  | 6.512650013 |
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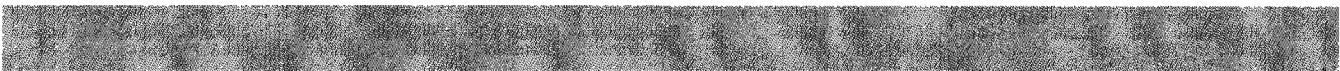
July 15 - Aug 15

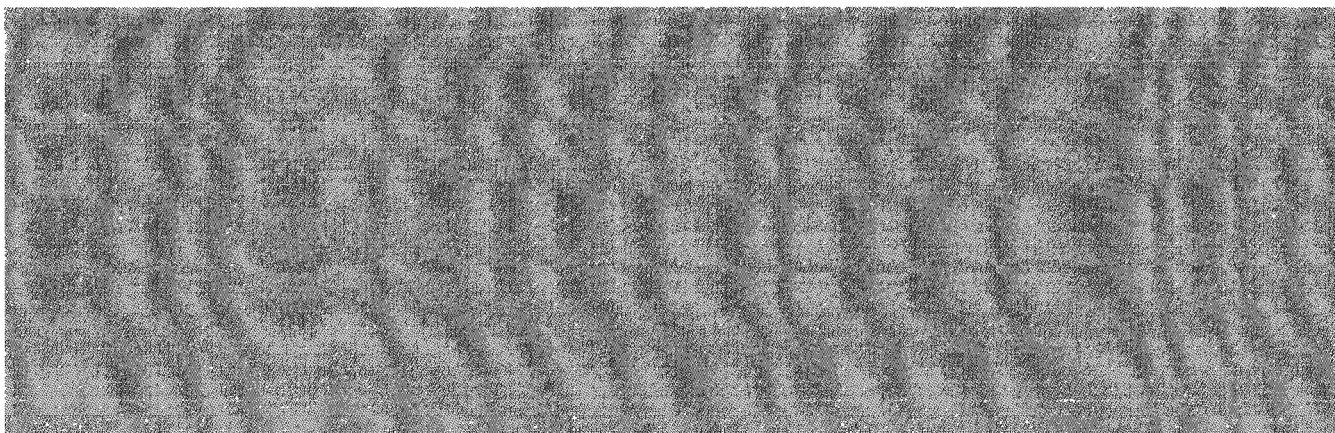
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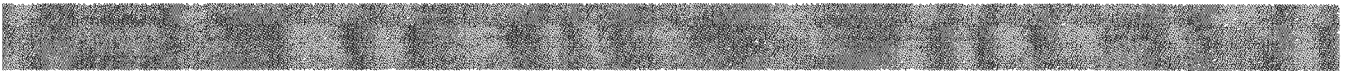


SIDE DELTA P









[REDACTED]

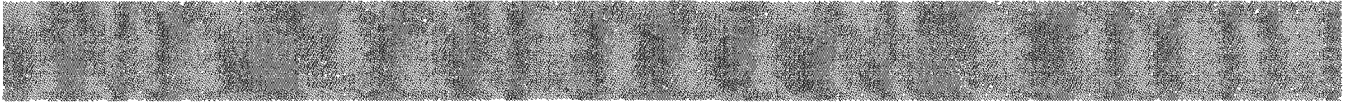
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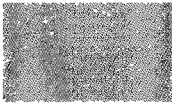
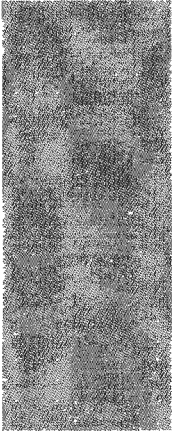












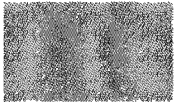












Start 4/10/03 12 00 AM  
End 4/25/03 12 00 AM

|                    | SAH 1A GAS<br>SIDE DELTA P<br>25GBPT0218 | SAH 1B GAS<br>SIDE DELTA P<br>25GBPT0217 | SEC AH 1A AIR<br>INLET T<br>25GBTE0938 | SEC AH 1A AIR<br>OUT T<br>25GBTE0919 |             | SEC AH 1B AIR<br>INLET T<br>25GBTE0940 | SEC AH 1B AIR<br>OUT T<br>25GBTE0920 |             | Av Blr Ex Gs<br>Tmp-East Duct<br>25GATE1650 | SEC AH 1A GAS<br>OUT T<br>25GBTE0927 |             | Av Blr Ex Gs<br>Tmp-West Duct<br>25GATE1651 | SEC AH 1B GAS<br>OUT T<br>25GBTE0929 | GENERATOR 1<br>WATT XDCH 3<br>21GBPK0022 |
|--------------------|--|--|--|--------------------------------------|-------------|--|--------------------------------------|-------------|---|--------------------------------------|-------------|---|--------------------------------------|--|
| 10-Apr-03 00 00 00 | 8 141117096                              | 8 14406395                               | 71 57952644                            | 677 0684204                          | 605 488884  | 70 94802094                            | 679 6725464                          | 608 7245255 | 753 9764404                                 | 299 2463074                          | 454 7301331 | 759 2971191                                 | 304 5080261                          | 454 789093                               |
| 11-Apr-03 00 00 00 | 8 311026573                              | 8 304528727                              | 72 82035691                            | 670 2625663                          | 597 4423294 | 72 31435394                            | 670 9711914                          | 598 6568375 | 745 2485352                                 | 298 5181538                          | 446 7303772 | 748 2469482                                 | 303 7293396                          | 444 5176006                              |
| 12-Apr-03 00 00 00 | 8 327911377                              | 8 319736481                              | 70 25357819                            | 675 4295044                          | 605 1758262 | 70 54161072                            | 675 9199219                          | 605 3783112 | 751 1866455                                 | 298 9406433                          | 452 2460022 | 754 1547852                                 | 304 6017456                          | 449 5530396                              |
| 13-Apr-03 00 00 00 | 9 066509247                              | 9 067001343                              | 69 51681519                            | 693 4456787                          | 623 9288635 | 69 49756622                            | 696 1077271                          | 626 6101608 | 773 619812                                  | 303 6791687                          | 469 9406433 | 777 2844849                                 | 313 9377136                          | 463 3467712                              |
| 14-Apr-03 00 00 00 | 8 821139336                              | 8 806542397                              | 64 65541077                            | 672 3746338                          | 607 719223  | 64 3704071                             | 671 928772                           | 607 5583649 | 753 4653931                                 | 294 7844543                          | 458 6809387 | 754 2664795                                 | 294 5376892                          | 459 7287903                              |
| 15-Apr-03 00 00 00 | 8 550033569                              | 8 591795921                              | 51 39296722                            | 669 7529907                          | 618 3600235 | 50 2052536                             | 669 6478882                          | 619 4426346 | 754 5045776                                 | 288 396759                           | 466 1078186 | 756 0341797                                 | 281 03302                            | 475 0011597                              |
| 16-Apr-03 00 00 00 | 8 344059944                              | 8 398226738                              | 54 84374237                            | 668 7567139                          | 613 9129715 | 54 83669281                            | 671 6919556                          | 616 8552628 | 751 8422852                                 | 290 3248901                          | 461 517395  | 755 3648682                                 | 285 7513733                          | 469 6134949                              |
| 17-Apr-03 00 00 00 | 8 280483246                              | 8 354556084                              | 57 03369141                            | 666 230957                           | 609 1972656 | 56 50333405                            | 672 8515015                          | 616 3481674 | 751 5080566                                 | 289 8182068                          | 461 6898499 | 757 2543335                                 | 286 0925293                          | 471 1618042                              |
| 18-Apr-03 00 00 00 | 8 435334206                              | 8 448998451                              | 49 23383331                            | 677 6071777                          | 628 3733444 | 48 82989883                            | 680 6312866                          | 631 8013878 | 765 7234497                                 | 289 9661865                          | 475 7572632 | 768 7285767                                 | 283 4352112                          | 485 2933655                              |
| 19-Apr-03 00 00 00 | 8 67992878                               | 8 754483223                              | 51 52522659                            | 684 350708                           | 632 8254814 | 51 18432999                            | 686 402771                           | 635 218441  | 771 6123657                                 | 292 0078125                          | 479 6045532 | 775 2973633                                 | 289 5458374                          | 485 7515259                              |
| 20-Apr-03 00 00 00 | 8 966820717                              | 9 065355301                              | 68 74998474                            | 698 4312134                          | 629 6812286 | 69 11136627                            | 698 0634155                          | 628 9520493 | 782 3095703                                 | 300 6334839                          | 481 6760964 | 787 5296021                                 | 309 7794189                          | 477 7501831                              |
| 21-Apr-03 00 00 00 | 8 807779171                              | 8 905127525                              | 66 75508118                            | 693 6952515                          | 626 9401703 | 66 20397949                            | 691 8786621                          | 625 6746826 | 777 2350464                                 | 299 9671326                          | 477 2679138 | 778 1924438                                 | 305 7414246                          | 472 4510193                              |
| 22-Apr-03 00 00 00 | 8 716384888                              | 8 728416443                              | 54 82840729                            | 677 5551758                          | 622 7267695 | 54 42907715                            | 680 9860229                          | 626 5569458 | 763 6290283                                 | 292 6911621                          | 470 9378662 | 767 6359253                                 | 292 5957031                          | 475 0402222                              |
| 23-Apr-03 00 00 00 | 8 717622757                              | 8 723725319                              | 50 90568161                            | 678 326416                           | 627 4207344 | 50 10759354                            | 680 2659302                          | 630 1583366 | 765 6290283                                 | 290 8411865                          | 474 7878418 | 769 1923828                                 | 285 5148926                          | 483 6774902                              |
| 24-Apr-03 00 00 00 | 8 746789932                              | 8 771536827                              | 63 08385086                            | 673 4545898                          | 610 370739  | 62 17083359                            | 672 9317017                          | 610 7608681 | 757 3962402                                 | 293 4398804                          | 463 9563599 | 756 8362427                                 | 291 4691467                          | 465 3670959                              |
|                    | 8.594196892                              | 8.825606982                              | 61.14521154                            | 678.4494751                          | 617.3042636 | 60.75028788                            | 679.9967529                          | 619.246465  | 761.2590983                                 | 294.8836955                          | 466.3754028 | 764.3543823                                 | 295.4848714                          | 468.8695109                              |
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Start 4/10/04 12 00 AM  
End 4/25/04 12 00 AM

|                    | SAH 1A GAS<br>SIDE DELTA P<br>25GBPT0218 | SAH 1B GAS<br>SIDE DELTA P<br>25GBPT0217 | SEC AH 1A AIR<br>INLET T<br>25GBTE0938 | SEC AH 1A AIR<br>OUT T<br>25GBTE0919 |              | SEC AH 1B AIR<br>INLET T<br>25GBTE0940 | SEC AH 1B AIR<br>OUT T<br>25GBTE0920 |              | Av Blr Ex Gs<br>Tmp-East Duct<br>25GATE1650 | SEC AH 1A GAS<br>OUT T<br>25GBTE0927 |             | Av Blr Ex Gs<br>Tmp-West Duct<br>25GATE1651 | SEC AH 1B GAS<br>OUT T<br>25GBTE0929 | GENERATOR 1<br>WATT XDCH 3<br>21GBPK0022 |
|--------------------|--|--|--|--------------------------------------|--------------|--|--------------------------------------|--------------|---|--------------------------------------|-------------|---|--------------------------------------|--|
| 10-Apr-04 00 00 00 | 4 837051392                              | 4 86812973                               | 56 93233871                            | 691 6207275                          | 634 6883888  | 55 2526741                             | 696 7807617                          | 641 5280876  | 732 5566406                                 | 272 9776306                          | 459 67901   | 728 9732666                                 | 268 9776917                          | 459 995575                               |
| 11-Apr-04 00 00 00 | 4 882710457                              | 5 012867928                              | 59 80474854                            | 700 9683228                          | 641 1635742  | 57 77939224                            | 704 1790161                          | 646 3996239  | 739 5054321                                 | 276 5018616                          | 463 0035706 | 734 1758423                                 | 274 6557922                          | 459 52005                                |
| 12-Apr-04 00 00 00 | 4 945103168                              | 5 100553513                              | 65 84797668                            | 706 2769165                          | 640 4289398  | 63 77956772                            | 709 0785057                          | 645 2962379  | 742 6243286                                 | 280 7384338                          | 461 8858948 | 736 121521                                  | 282 5897217                          | 453 5317993                              |
| 13-Apr-04 00 00 00 | 4 926320553                              | 5 054998875                              | 71 58420563                            | 706 5906982                          | 635 0064926  | 69 71303558                            | 708 843689                           | 639 1065334  | 743 1734619                                 | 281 8184509                          | 461 355011  | 735 3533325                                 | 287 7660217                          | 447 5873108                              |
| 14-Apr-04 00 00 00 | 5 045512676                              | 5 14523983                               | 68 54443359                            | 705 7543945                          | 637 2099609  | 67 10229187                            | 704 7792358                          | 637 7563171  | 743 3786011                                 | 279 6712036                          | 463 7073975 | 733 4945679                                 | 278 2767944                          | 455 2177734                              |
| 15-Apr-04 00 00 00 | 5 032177448                              | 5 25039829                               | 68 88698578                            | 702 628418                           | 633 7414322  | 67 09647369                            | 701 7939453                          | 634 6974716  | 737 961792                                  | 280 8648071                          | 457 0969849 | 729 654541                                  | 282 2746582                          | 447 3798828                              |
| 16-Apr-04 00 00 00 | 5 102563381                              | 5 252177715                              | 70 6423111                             | 702 5951538                          | 631 9528427  | 69 078125                              | 705 0194702                          | 635 9413452  | 740 4730225                                 | 281 6647644                          | 458 8082581 | 735 3989868                                 | 287 7754517                          | 447 6235352                              |
| 17-Apr-04 00 00 00 | 5 071471691                              | 5 220271111                              | 66 63700867                            | 699 7808228                          | 633 1438141  | 65 09393311                            | 700 1959839                          | 635 1020508  | 741 8581543                                 | 279 6175842                          | 462 2405701 | 736 9574585                                 | 284 6630249                          | 452 2944336                              |
| 18-Apr-04 00 00 00 | 4 582930088                              | 4 775040627                              | 54 92449951                            | 697 9579468                          | 643 0334473  | 53 44903564                            | 696 9645996                          | 643 515564   | 738 2515869                                 | 273 445282                           | 464 8063049 | 731 1234741                                 | 269 9104919                          | 461 2129822                              |
| 19-Apr-04 00 00 00 | 4 720369655                              | 4 806006432                              | 58 62519836                            | 695 555603                           | 636 9304047  | 57 42727661                            | 695 8105469                          | 638 3832703  | 732 7993164                                 | 276 927002                           | 455 8723145 | 732 0841675                                 | 276 65979                            | 455 4243774                              |
| 20-Apr-04 00 00 00 | 4 719629288                              | 4 935467243                              | 60 08618546                            | 698 9279175                          | 638 841732   | 58 77475357                            | 700 5231323                          | 641 7483788  | 743 831604                                  | 277 8270569                          | 466 0045471 | 704 7028809                                 | 280 1490479                          | 424 553833                               |
| 21-Apr-04 00 00 00 | 4 796504974                              | 5 04242754                               | 56 2650032                             | 694 5853271                          | 638 3203239  | 54 73175812                            | 698 3309937                          | 643 5992355  | 742 1729126                                 | 275 3887939                          | 466 7841187 | 684 5556641                                 | 275 2315979                          | 409 3240662                              |
| 22-Apr-04 00 00 00 | 5 01298666                               | 5 214817047                              | 54 88278961                            | 696 8151245                          | 641 9323349  | 53 69043732                            | 700 5027466                          | 646 8123093  | 745 9342651                                 | 275 0386047                          | 470 8956604 | 691 9644165                                 | 273 3787842                          | 418 5856323                              |
| 23-Apr-04 00 00 00 | 4 961749554                              | 5 239710331                              | 62 01240158                            | 703 0958862                          | 641 0834846  | 61 00463104                            | 707 4192505                          | 646 4146194  | 751 3966064                                 | 278 9871521                          | 472 4094543 | 696 0291138                                 | 285 48526                            | 410 5438538                              |
| 24-Apr-04 00 00 00 | 4 719387054                              | 4 926821232                              | 63 16644669                            | 695 5202637                          | 632 353817   | 62 05866623                            | 705 1550903                          | 643 0964241  | 740 6723633                                 | 277 7759705                          | 462 8963928 | 687 8745728                                 | 284 1458435                          | 403 7287292                              |
|                    | 4.890431023                              | 5.06832747                               | 62.58950221                            | 699.9115682                          | 637.322066   | 61.06351191                            | 702.3582845                          | 641.2947726  | 741.1060059                                 | 277.9496399                          | 463.156366  | 719.8975871                                 | 279.4626648                          | 440.4349223                              |
|                    | 3 703765869                              | 3 569279512                              | -1 44429067                            | -21 4620931                          | -20 01780243 | -0 31322403                            | -22 36153158                         | -22 04830755 | 20 15309245                                 | 16 93405558                          | 3 219036865 | 44 45679525                                 | 16 02220662                          | 28 43458862                              |
|                    |  | 3 63652269                               |  |                                      |              |  |                                      |              |   |                                      |             |   |                                      | -1 348539225                             |

| EntryId | EntryDate     | EventId | DeviceId |               |          |
|---------|---------------|---------|----------|---------------|----------|
| 104553  | 4/8/04 11:03  | 35      | 402      | 1A1 1         |          |
| 104555  | 4/8/04 11:36  | 36      | 402      | 1A1 0 0:32:20 |          |
| 104569  | 4/8/04 12:39  | 35      | 402      | 1A1 1         | 1:03:07  |
| 104571  | 4/8/04 13:11  | 36      | 402      | 1A1 0 0:32:15 |          |
| 104585  | 4/8/04 14:14  | 35      | 402      | 1A1 1         | 1:03:10  |
| 104587  | 4/8/04 14:46  | 36      | 402      | 1A1 0 0:32:15 |          |
| 104601  | 4/8/04 15:49  | 35      | 402      | 1A1 1         | 1:03:09  |
| 104603  | 4/8/04 16:22  | 36      | 402      | 1A1 0 0:32:12 |          |
| 104617  | 4/8/04 17:25  | 35      | 402      | 1A1 1         | 1:03:10  |
| 104619  | 4/8/04 17:57  | 36      | 402      | 1A1 0 0:32:12 |          |
| 104633  | 4/8/04 19:00  | 35      | 402      | 1A1 1         | 1:03:10  |
| 104635  | 4/8/04 19:32  | 36      | 402      | 1A1 0 0:32:12 |          |
| 104649  | 4/8/04 20:36  | 35      | 402      | 1A1 1         | 1:03:07  |
| 104651  | 4/8/04 21:08  | 36      | 402      | 1A1 0 0:32:12 |          |
| 104665  | 4/8/04 22:11  | 35      | 402      | 1A1 1         | 1:03:10  |
| 104667  | 4/8/04 22:43  | 36      | 402      | 1A1 0 0:32:14 |          |
| 104681  | 4/8/04 23:46  | 35      | 402      | 1A1 1         | 1:03:04  |
| 104683  | 4/9/04 0:18   | 36      | 402      | 1A1 0 0:32:16 |          |
| 104722  | 4/9/04 1:55   | 35      | 402      | 1A1 1         | 1:36:37  |
| 104760  | 4/9/04 2:27   | 36      | 402      | 1A1 0 0:32:13 |          |
| 104822  | 4/9/04 6:57   | 35      | 402      | 1A1 1         | 4:29:21  |
| 104845  | 4/9/04 7:29   | 36      | 402      | 1A1 0 0:32:14 |          |
| 105037  | 4/9/04 17:24  | 35      | 402      | 1A1 1         | 9:54:59  |
| 105045  | 4/9/04 17:56  | 36      | 402      | 1A1 0 0:32:14 |          |
| 105141  | 4/10/04 0:01  | 35      | 402      | 1A1 1         | 6:04:30  |
| 105160  | 4/10/04 0:33  | 36      | 402      | 1A1 0 0:32:14 |          |
| 105675  | 4/10/04 20:59 | 35      | 402      | 1A1 1         | 20:26:31 |
| 105687  | 4/10/04 21:32 | 36      | 402      | 1A1 0 0:32:14 |          |
| 105883  | 4/11/04 3:43  | 35      | 402      | 1A1 1         | 6:11:09  |
| 105922  | 4/11/04 4:15  | 36      | 402      | 1A1 0 0:32:14 |          |
| 106285  | 4/11/04 20:58 | 35      | 402      | 1A1 1         | 16:42:41 |
| 106296  | 4/11/04 21:30 | 36      | 402      | 1A1 0 0:32:12 |          |
| 106489  | 4/12/04 3:35  | 35      | 402      | 1A1 1         | 6:05:20  |
| 106503  | 4/12/04 4:07  | 36      | 402      | 1A1 0 0:32:11 |          |
| 106664  | 4/12/04 11:05 | 35      | 402      | 1A1 1         | 6:57:14  |
| 106668  | 4/12/04 11:37 | 36      | 402      | 1A1 0 0:32:12 |          |
| 107168  | 4/13/04 14:21 | 35      | 402      | 1A1 1         | 26:44:13 |
| 107170  | 4/13/04 14:53 | 36      | 402      | 1A1 0 0:32:12 |          |
| 107262  | 4/13/04 23:29 | 35      | 402      | 1A1 1         | 8:35:50  |
| 107277  | 4/14/04 0:01  | 36      | 402      | 1A1 0 0:32:11 |          |
| 107809  | 4/14/04 14:48 | 35      | 402      | 1A1 1         | 14:46:40 |
| 107826  | 4/14/04 15:20 | 36      | 402      | 1A1 0 0:32:13 |          |
| 108775  | 4/16/04 16:52 | 35      | 402      | 1A1 1         | 49:32:19 |
| 108796  | 4/16/04 17:25 | 36      | 402      | 1A1 0 0:32:11 |          |
| 109556  | 4/18/04 5:30  | 35      | 402      | 1A1 1         | 36:05:42 |
| 109560  | 4/18/04 6:03  | 36      | 402      | 1A1 0 0:32:11 |          |
| 109945  | 4/19/04 1:32  | 35      | 402      | 1A1 1         | 19:29:23 |
| 109962  | 4/19/04 2:04  | 36      | 402      | 1A1 0 0:32:11 |          |
| 113420  | 4/24/04 2:09  | 35      | 402      | 1A1 1         | #####    |
| 113422  | 4/24/04 2:41  | 36      | 402      | 1A1 0 0:32:11 |          |
| 114011  | 4/25/04 16:49 | 35      | 402      | 1A1 1         | 38:08:15 |

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|--------|---------------|----|-----|---------------|----------|
| 114025 | 4/25/04 17:21 | 36 | 402 | 1A1 0 0:32:13 |          |
| 114745 | 4/26/04 16:06 | 35 | 402 | 1A1 1         | 22:44:31 |
| 114753 | 4/26/04 16:38 | 36 | 402 | 1A1 0 0:32:12 |          |
| 115379 | 4/27/04 13:51 | 35 | 402 | 1A1 1         | 21:13:13 |
| 115391 | 4/27/04 14:24 | 36 | 402 | 1A1 0 0:32:12 |          |
| 115709 | 4/27/04 23:56 | 35 | 402 | 1A1 1         | 9:32:50  |
| 115717 | 4/28/04 0:29  | 36 | 402 | 1A1 0 0:32:12 |          |
| 116262 | 4/28/04 15:10 | 35 | 402 | 1A1 1         | 14:41:46 |
| 116275 | 4/28/04 15:43 | 36 | 402 | 1A1 0 0:32:13 |          |
| 116658 | 4/29/04 5:15  | 35 | 402 | 1A1 1         | 13:32:36 |
| 116660 | 4/29/04 5:47  | 36 | 402 | 1A1 0 0:32:15 |          |
| 117171 | 4/30/04 8:46  | 35 | 402 | 1A1 1         | 26:58:55 |
| 117178 | 4/30/04 9:19  | 36 | 402 | 1A1 0 0:32:11 |          |
| 117896 | 5/1/04 22:48  | 35 | 402 | 1A1 1         | 37:29:04 |
| 117898 | 5/1/04 23:20  | 36 | 402 | 1A1 0 0:32:11 |          |
| 118948 | 5/3/04 13:56  | 35 | 402 | 1A1 1         | 38:35:48 |
| 118964 | 5/3/04 14:28  | 36 | 402 | 1A1 0 0:32:10 |          |
| 119268 | 5/3/04 18:38  | 35 | 402 | 1A1 1         | 4:10:37  |
| 119270 | 5/3/04 19:11  | 36 | 402 | 1A1 0 0:32:12 |          |
| 119371 | 5/3/04 23:15  | 35 | 402 | 1A1 1         | 4:04:21  |
| 119373 | 5/3/04 23:47  | 36 | 402 | 1A1 0 0:32:13 |          |
| 119806 | 5/4/04 12:11  | 35 | 402 | 1A1 1         | 12:23:49 |
| 119808 | 5/4/04 12:43  | 36 | 402 | 1A1 0 0:32:13 |          |
| 119900 | 5/4/04 23:42  | 35 | 402 | 1A1 1         | 10:58:42 |
| 119915 | 5/5/04 0:14   | 36 | 402 | 1A1 0 0:32:13 |          |
| 120247 | 5/5/04 13:43  | 35 | 402 | 1A1 1         | 13:28:45 |
| 120249 | 5/5/04 14:15  | 36 | 402 | 1A1 0 0:32:10 |          |
| 120385 | 5/6/04 0:48   | 35 | 402 | 1A1 1         | 10:33:20 |
| 120388 | 5/6/04 1:21   | 36 | 402 | 1A1 0 0:32:12 |          |
| 120502 | 5/6/04 4:41   | 35 | 402 | 1A1 1         | 3:20:42  |
| 120513 | 5/6/04 5:14   | 36 | 402 | 1A1 0 0:32:15 |          |
| 120598 | 5/6/04 8:53   | 35 | 402 | 1A1 1         | 3:39:03  |
| 120637 | 5/6/04 9:25   | 36 | 402 | 1A1 0 0:32:13 |          |
| 120857 | 5/6/04 21:33  | 35 | 402 | 1A1 1         | 12:07:50 |
| 120875 | 5/6/04 22:05  | 36 | 402 | 1A1 0 0:32:12 |          |
| 121405 | 5/7/04 21:47  | 35 | 402 | 1A1 1         | 23:42:00 |
| 121429 | 5/7/04 22:19  | 36 | 402 | 1A1 0 0:32:12 |          |
| 122136 | 5/8/04 21:24  | 35 | 402 | 1A1 1         | 23:04:39 |
| 122139 | 5/8/04 21:56  | 36 | 402 | 1A1 0 0:32:13 |          |
| 122814 | 5/9/04 19:35  | 35 | 402 | 1A1 1         | 21:39:19 |
| 122816 | 5/9/04 20:07  | 36 | 402 | 1A1 0 0:32:13 |          |
| 123201 | 5/10/04 11:17 | 35 | 402 | 1A1 1         | 15:09:29 |
| 123203 | 5/10/04 11:49 | 36 | 402 | 1A1 0 0:32:12 |          |
| 123340 | 5/11/04 2:24  | 35 | 402 | 1A1 1         | 14:35:11 |
| 123342 | 5/11/04 2:56  | 36 | 402 | 1A1 0 0:32:12 |          |
| 123530 | 5/11/04 15:34 | 35 | 402 | 1A1 1         | 12:37:43 |
| 123546 | 5/11/04 16:06 | 36 | 402 | 1A1 0 0:32:13 |          |
| 123933 | 5/12/04 14:52 | 35 | 402 | 1A1 1         | 22:45:37 |
| 123948 | 5/12/04 15:24 | 36 | 402 | 1A1 0 0:32:10 |          |
| 124385 | 5/13/04 11:45 | 35 | 402 | 1A1 1         | 20:21:11 |
| 124387 | 5/13/04 12:18 | 36 | 402 | 1A1 0 0:32:11 |          |
| 139686 | 5/15/04 1:39  | 35 | 402 | 1A1 1         | 37:21:41 |

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| 139694 | 5/15/04 2:11  | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 139792 | 5/15/04 7:26  | 35 | 402 | 1A1 | 1 |         | 5:15:02  |
| 139809 | 5/15/04 7:59  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 139872 | 5/15/04 12:05 | 35 | 402 | 1A1 | 1 |         | 4:06:18  |
| 139874 | 5/15/04 12:37 | 36 | 402 | 1A1 | 0 | 0:32:13 |          |
| 139993 | 5/15/04 17:09 | 35 | 402 | 1A1 | 1 |         | 4:32:18  |
| 139995 | 5/15/04 17:42 | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 140109 | 5/16/04 0:55  | 35 | 402 | 1A1 | 1 |         | 7:12:52  |
| 140129 | 5/16/04 1:27  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 140235 | 5/16/04 8:18  | 35 | 402 | 1A1 | 1 |         | 6:51:41  |
| 140237 | 5/16/04 8:51  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 140415 | 5/16/04 17:28 | 35 | 402 | 1A1 | 1 |         | 8:36:58  |
| 140417 | 5/16/04 18:00 | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 140729 | 5/17/04 17:48 | 35 | 402 | 1A1 | 1 |         | 23:47:54 |
| 140745 | 5/17/04 18:20 | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 141689 | 5/19/04 5:11  | 35 | 402 | 1A1 | 1 |         | 34:51:30 |
| 141712 | 5/19/04 5:44  | 36 | 402 | 1A1 | 0 | 0:32:13 |          |
| 142592 | 5/20/04 20:43 | 35 | 402 | 1A1 | 1 |         | 38:59:52 |
| 142599 | 5/20/04 21:16 | 36 | 402 | 1A1 | 0 | 0:32:09 |          |
| 143255 | 5/22/04 16:26 | 35 | 402 | 1A1 | 1 |         | 43:10:19 |
| 143257 | 5/22/04 16:58 | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 143505 | 5/23/04 4:49  | 35 | 402 | 1A1 | 1 |         | 11:51:17 |
| 143523 | 5/23/04 5:22  | 36 | 402 | 1A1 | 0 | 0:32:13 |          |
| 144037 | 5/24/04 4:48  | 35 | 402 | 1A1 | 1 |         | 23:25:54 |
| 144050 | 5/24/04 5:20  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 144515 | 5/25/04 5:55  | 35 | 402 | 1A1 | 1 |         | 24:35:12 |
| 144547 | 5/25/04 6:27  | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 145073 | 5/25/04 23:43 | 35 | 402 | 1A1 | 1 |         | 17:15:29 |
| 145075 | 5/26/04 0:15  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 145878 | 5/27/04 15:04 | 35 | 402 | 1A1 | 1 |         | 38:49:23 |
| 145896 | 5/27/04 15:36 | 36 | 402 | 1A1 | 0 | 0:32:09 |          |
| 146083 | 5/28/04 3:10  | 35 | 402 | 1A1 | 1 |         | 11:33:40 |
| 146097 | 5/28/04 3:42  | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 146538 | 5/29/04 0:08  | 35 | 402 | 1A1 | 1 |         | 20:26:08 |
| 146571 | 5/29/04 0:40  | 36 | 402 | 1A1 | 0 | 0:32:14 |          |
| 147298 | 5/30/04 4:41  | 35 | 402 | 1A1 | 1 |         | 28:00:51 |
| 147306 | 5/30/04 5:14  | 36 | 402 | 1A1 | 0 | 0:32:13 |          |
| 147509 | 5/30/04 19:10 | 35 | 402 | 1A1 | 1 |         | 13:56:02 |
| 147528 | 5/30/04 19:42 | 36 | 402 | 1A1 | 0 | 0:32:14 |          |
| 148222 | 5/31/04 15:12 | 35 | 402 | 1A1 | 1 |         | 19:30:19 |
| 148231 | 5/31/04 15:44 | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 148343 | 6/1/04 0:52   | 35 | 402 | 1A1 | 1 |         | 9:08:03  |
| 148346 | 6/1/04 1:25   | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 148789 | 6/2/04 2:42   | 35 | 402 | 1A1 | 1 |         | 25:17:39 |
| 148808 | 6/2/04 3:14   | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 149136 | 6/2/04 14:57  | 35 | 402 | 1A1 | 1 |         | 11:42:15 |
| 149163 | 6/2/04 15:29  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 149326 | 6/2/04 23:41  | 35 | 402 | 1A1 | 1 |         | 8:12:13  |
| 149342 | 6/3/04 0:13   | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 149641 | 6/3/04 15:07  | 35 | 402 | 1A1 | 1 |         | 14:53:38 |
| 149653 | 6/3/04 15:39  | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 149715 | 6/3/04 20:11  | 35 | 402 | 1A1 | 1 |         | 4:31:55  |

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| 149723 | 6/3/04 20:43  | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 150106 | 6/4/04 10:56  | 35 | 402 | 1A1 | 1 |         | 14:12:23 |
| 150116 | 6/4/04 11:28  | 36 | 402 | 1A1 | 0 | 0:32:13 |          |
| 150392 | 6/5/04 2:29   | 35 | 402 | 1A1 | 1 |         | 15:01:05 |
| 150412 | 6/5/04 3:01   | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 150623 | 6/5/04 16:39  | 35 | 402 | 1A1 | 1 |         | 13:38:09 |
| 150636 | 6/5/04 17:11  | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 150663 | 6/5/04 20:02  | 35 | 402 | 1A1 | 1 |         | 2:50:38  |
| 150665 | 6/5/04 20:34  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 150935 | 6/6/04 11:52  | 35 | 402 | 1A1 | 1 |         | 15:17:40 |
| 150949 | 6/6/04 12:24  | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 151050 | 6/6/04 20:52  | 35 | 402 | 1A1 | 1 |         | 8:28:16  |
| 151061 | 6/6/04 21:24  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 151338 | 6/7/04 15:47  | 35 | 402 | 1A1 | 1 |         | 18:22:31 |
| 151348 | 6/7/04 16:19  | 36 | 402 | 1A1 | 0 | 0:32:08 |          |
| 151695 | 6/8/04 17:17  | 35 | 402 | 1A1 | 1 |         | 24:58:12 |
| 151706 | 6/8/04 17:50  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 151765 | 6/9/04 1:48   | 35 | 402 | 1A1 | 1 |         | 7:58:10  |
| 151775 | 6/9/04 2:20   | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 151831 | 6/9/04 21:40  | 35 | 402 | 1A1 | 1 |         | 19:20:31 |
| 151860 | 6/9/04 22:13  | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 152238 | 6/10/04 17:30 | 35 | 402 | 1A1 | 1 |         | 19:17:00 |
| 152240 | 6/10/04 18:02 | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 152435 | 6/11/04 8:34  | 35 | 402 | 1A1 | 1 |         | 14:32:36 |
| 152441 | 6/11/04 9:07  | 36 | 402 | 1A1 | 0 | 0:32:15 |          |
| 152773 | 6/12/04 8:28  | 35 | 402 | 1A1 | 1 |         | 23:21:33 |
| 152786 | 6/12/04 9:00  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 153134 | 6/13/04 7:55  | 35 | 402 | 1A1 | 1 |         | 22:54:52 |
| 153136 | 6/13/04 8:27  | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 154154 | 6/15/04 20:47 | 35 | 402 | 1A1 | 1 |         | 60:19:38 |
| 154179 | 6/15/04 21:19 | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 155128 | 6/17/04 22:52 | 35 | 402 | 1A1 | 1 |         | 49:32:38 |
| 155142 | 6/17/04 23:24 | 36 | 402 | 1A1 | 0 | 0:32:14 |          |
| 155518 | 6/18/04 21:33 | 35 | 402 | 1A1 | 1 |         | 22:08:39 |
| 155520 | 6/18/04 22:05 | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 155720 | 6/19/04 13:23 | 35 | 402 | 1A1 | 1 |         | 15:18:20 |
| 155722 | 6/19/04 13:55 | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 155888 | 6/20/04 1:53  | 35 | 402 | 1A1 | 1 |         | 11:57:18 |
| 155894 | 6/20/04 2:25  | 36 | 402 | 1A1 | 0 | 0:32:10 |          |
| 156160 | 6/20/04 19:34 | 35 | 402 | 1A1 | 1 |         | 17:09:12 |
| 156181 | 6/20/04 20:06 | 36 | 402 | 1A1 | 0 | 0:32:09 |          |
| 156554 | 6/21/04 17:55 | 35 | 402 | 1A1 | 1 |         | 21:49:08 |
| 156569 | 6/21/04 18:31 | 36 | 402 | 1A1 | 0 | 0:35:32 |          |
| 157069 | 6/22/04 16:18 | 35 | 402 | 1A1 | 1 |         | 21:47:22 |
| 157079 | 6/22/04 16:50 | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 158126 | 6/24/04 6:54  | 35 | 402 | 1A1 | 1 |         | 38:03:47 |
| 158128 | 6/24/04 7:26  | 36 | 402 | 1A1 | 0 | 0:32:11 |          |
| 158629 | 6/25/04 4:46  | 35 | 402 | 1A1 | 1 |         | 21:19:27 |
| 158639 | 6/25/04 5:18  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 159528 | 6/27/04 6:11  | 35 | 402 | 1A1 | 1 |         | 48:52:34 |
| 159581 | 6/27/04 6:43  | 36 | 402 | 1A1 | 0 | 0:32:12 |          |
| 160024 | 6/28/04 3:57  | 35 | 402 | 1A1 | 1 |         | 21:14:22 |

|        |               |    |     |               |                         |
|--------|---------------|----|-----|---------------|-------------------------|
| 160036 | 6/28/04 4:29  | 36 | 402 | 1A1 0 0:32:11 |                         |
| 160304 | 6/28/04 17:03 | 35 | 402 | 1A1 1         | 12:33:35                |
| 160309 | 6/28/04 17:35 | 36 | 402 | 1A1 0 0:32:10 |                         |
|        |               |    |     |               | <b>0:32:14 18:12:46</b> |

| DeviceId | Device |        |
|----------|--------|--------|
| 401      | 2A1    | PAH 2A |
| 402      | 1A1    | SAH 1A |
| 403      | 1B1    | SAH 1B |
| 404      | 2B1    | PAH 2B |
| 405      | 2A2    | PAH 2A |
| 406      | 1A2    | SAH 1A |
| 407      | 1B2    | SAH 1B |
| 408      | 2B2    | PAH 2B |



Cost Detail Report for Specified Work Orders

| Work Order | Source | Po No..... | Vendor Name..... | Wo Part Desc          | Amount     | Tax   | Freight | Tax On Freight |
|------------|--------|------------|------------------|-----------------------|------------|-------|---------|----------------|
| -----      | -----  |            |                  | -----                 | -----      | ----- | -----   | -----          |
| 03-96032-0 | IC     |            |                  | SEAL, BY-PASS         | 0.00       |       |         |                |
|            | **     |            |                  |                       | -----      | ----- | -----   | -----          |
| 03-96032-0 | IC     |            |                  |                       | 0.00       | 0.00  | 0.00    | 0.00           |
| 03-96032-0 | JE     |            |                  | JOURNAL ENTRY 0805010 | 679271.56  |       |         |                |
| 03-96032-0 | JE     |            |                  | JOURNAL ENTRY 0805010 | -679271.56 |       |         |                |
| 03-96032-0 | JE     |            |                  | JOURNAL ENTRY 0805010 | -8478.71   |       |         |                |
| 03-96032-0 | JE     |            |                  | JOURNAL ENTRY 0905039 | 7975.00    |       |         |                |
|            | **     |            |                  |                       | -----      | ----- | -----   | -----          |
| 03-96032-0 | JE     |            |                  |                       | -503.71    | 0.00  | 0.00    | 0.00           |
| 03-96032-0 | LD     |            |                  | LABOR                 | 245.46     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 124.63     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 417.82     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 409.92     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 80.35      |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 99.70      |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 385.68     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 273.28     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 120.53     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 167.60     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 336.12     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 623.13     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 112.49     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 377.10     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 409.92     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 168.74     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 395.30     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 124.63     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 409.92     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 401.75     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 470.05     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 96.42      |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 409.92     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 112.49     |       |         |                |
| 03-96032-0 | LD     |            |                  | LABOR                 | 433.89     |       |         |                |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022048

Cost Detail Report for Specified Work Orders

| Work Order | Source | Po No.....  | Vendor Name.....   | Wo Part Desc                             | Amount   | Tax   | Freight | Tax On Freight |
|------------|--------|-------------|--------------------|--|----------|-------|---------|----------------|
| -----      | -----  |             |                    | -----                                    | -----    | ----- | -----   | -----          |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 409.92   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 27.31    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 27.31    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 27.31    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 54.62    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 27.31    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 409.92   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 424.48   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 163.86   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 81.93    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 122.90   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 314.48   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 177.52   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 52.82    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 80.35    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 218.48   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 233.10   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 168.06   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 79.23    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 26.41    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 598.20   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 27.31    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 81.93    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 112.04   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 81.93    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 39.62    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 273.28   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 109.24   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 49.95    |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 409.92   |       |         |                |
| 03-96032-0 | LD     |             |                    | LABOR                                    | 96.42    |       |         |                |
|            | **     |             |                    |  | -----    | ----- | -----   | -----          |
| 03-96032-0 | LD     |             |                    |  | 12214.00 | 0.00  | 0.00    | 0.00           |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00  |       |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00 |       |         |                |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022049

Cost Detail Report for Specified Work Orders

| Work Order | Source |             |                    | Wo Part Desc                             | Amount     | Tax   | Freight | Tax On Freight |
|------------|--------|-------------|--------------------|--|------------|-------|---------|----------------|
| -----      | -----  | Po No.....  | Vendor Name.....   | -----                                    | -----      | ----- | -----   | -----          |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 04-45615-3  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PR  | -525320.00 |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 04-45615-5  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -56787.75  |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-3  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-3  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-3  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-45615-10 | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -478707.92 |       |         |                |
| 03-96032-0 | PJ     | 05-43065    | ALSTOM POWER       | PURCHASE ORDER FOR INSPECTION & REPLACEM | -45139.39  |       |         |                |
| 03-96032-0 | PJ     | 05-42891-9  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-3  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-3  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-3  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-6  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-6  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-6  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-6  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |       |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |       |         |                |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022050

Cost Detail Report for Specified Work Orders

| Work Order | Source |             |                    | Wo Part Desc                             | Amount     | Tax      | Freight | Tax On Freight |
|------------|--------|-------------|--------------------|--|------------|----------|---------|----------------|
| -----      | -----  | Po No. .... | Vendor Name.....   | -----                                    | -----      | -----    | -----   | -----          |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-5  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   | 0.00     | 0.00    | 0.00           |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-5  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-5  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   | 0.00     | 0.00    | 0.00           |
| 03-96032-0 | PJ     | 05-42891-5  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-5  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-5  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-6  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-6  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 04-45615-4  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 195220.00  | 56534.00 |         |                |
| 03-96032-0 | PJ     | 05-42891-6  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-7  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-7  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-8  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-9  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |          |         |                |
| 03-96032-0 | PJ     | 05-45615-10 | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 478707.92  |          |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |          |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |          |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |          |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |          |         |                |
| 03-96032-0 | PJ     | 05-42891-1  | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 1 SAH ELEMENT & ROTOR  | -199364.00 |          |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |          |         |                |
| 03-96032-0 | PJ     | 05-42891-1  | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 1 SAH ELEMENT & ROTOR  | 199364.00  | 0.00     | 0.00    | 0.00           |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022051

Cost Detail Report for Specified Work Orders

| Work Order | Source | Po No.....  | Vendor Name.....   | Wo Part Desc                             | Amount     | Tax       | Freight | Tax On Freight |
|------------|--------|-------------|--------------------|--|------------|-----------|---------|----------------|
| -----      | -----  |             |                    | -----                                    | -----      | -----     | -----   | -----          |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |           |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |           |         |                |
| 03-96032-0 | PJ     | 04-45615-4  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -195220.00 | -56534.00 | 0.00    | 0.00           |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |           |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |           |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |           |         |                |
| 03-96032-0 | PJ     | 04-45615-3  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PR  | 525320.00  |           |         |                |
| 03-96032-0 | PJ     | 05-42891-4  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00   |           |         |                |
| 03-96032-0 | PJ     |             |                    |  | -40139.39  |           |         |                |
| 03-96032-0 | PJ     | 05-42891-1  | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 1 SAH ELEMENT & ROTOR  | -199364.00 | 0.00      | 0.00    | 0.00           |
| 03-96032-0 | PJ     | 05-45615-9  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 535617.00  |           |         |                |
| 03-96032-0 | PJ     | 04-45615-2  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 262660.00  | 15102.95  |         |                |
| 03-96032-0 | PJ     |             |                    |  | -92454.89  |           |         |                |
| 03-96032-0 | PJ     | 05-45615-11 | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 56909.08   | 76994.92  |         |                |
| 03-96032-0 | PJ     | 04-36853    | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 2 MATERIALS, DELIVERY  | -152974.75 |           |         |                |
| 03-96032-0 | PJ     | 04-45615-2  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -262660.00 |           |         |                |
| 03-96032-0 | PJ     | 04-45615-4  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 195220.00  | 56534.00  |         |                |
| 03-96032-0 | PJ     | 05-42844    | ALSTOM POWER       | T-BAR SET, END FLOATING, HOT & COLD, WIT | 21950.00   | 1262.13   |         |                |
| 03-96032-0 | PJ     |             |                    |  | -65881.71  |           |         |                |
| 03-96032-0 | PJ     | 05-45615-6  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 276400.00  | 15893.00  |         |                |
| 03-96032-0 | PJ     | 05-45615-6  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -292293.00 |           |         |                |
| 03-96032-0 | PJ     | 04-36853    | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 2 MATERIALS, DELIVERY  | 152974.75  |           |         |                |
| 03-96032-0 | PJ     | 04-36853    | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 2 MATERIALS, DELIVERY  | -152974.75 | 0.00      | 0.00    | 0.00           |
| 03-96032-0 | PJ     | 04-45615-5  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 53700.00   | 3087.75   |         |                |
| 03-96032-0 | PJ     | 04-36853    | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 2 MATERIALS, DELIVERY  | 152974.75  | 0.00      | 0.00    | 0.00           |
| 03-96032-0 | PJ     | 05-45615-8  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | 267808.00  |           |         |                |
| 03-96032-0 | PJ     | 05-45615-8  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -267808.00 |           |         |                |
| 03-96032-0 | PJ     | 05-45615-9  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -535617.00 |           |         |                |
| 03-96032-0 | PJ     |             |                    |  | -5000.00   |           |         |                |
| 03-96032-0 | PJ     | 05-42891-1  | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 1 SAH ELEMENT & ROTOR  | 199364.00  |           |         |                |
| 03-96032-0 | PJ     | 04-36853    | NEW TECH TRANSPORT | FREIGHT, FOR UNIT 2 MATERIALS, DELIVERY  | 152974.75  |           |         |                |
| 03-96032-0 | PJ     | 05-45615-11 | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -133904.00 |           |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |           |         |                |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00    |           |         |                |
| 03-96032-0 | PJ     | 04-45615-4  | ALSTOM POWER       | PROGRESS PAYMENT TO ALSTOM POWER/AIR PRE | -251754.00 |           |         |                |
| 03-96032-0 | PJ     | 05-43065    | ALSTOM POWER       | PURCHASE ORDER FOR INSPECTION & REPLACEM | 42685.00   | 2454.39   |         |                |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022052

Cost Detail Report for Specified Work Orders

| Work Order | Source |             |                    | Wo Part Desc                             | Amount    | Tax       | Freight | Tax On Freight |
|------------|--------|-------------|--------------------|--|-----------|-----------|---------|----------------|
| -----      | -----  | Po No.....  | Vendor Name.....   | -----                                    | -----     | -----     | -----   | -----          |
| 03-96032-0 | PJ     | 05-42891-10 | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | -4334.00  |           |         |                |
| 03-96032-0 | PJ     | 05-42891-2  | NEW TECH TRANSPORT | PROGRESS BILLING FOR FREIGHT ON AIR HEAT | 4334.00   |           |         |                |
|            | **     |             |                    |  | -----     | -----     | -----   | -----          |
| 03-96032-0 | PJ     |             |                    |  | -96835.30 | 171329.14 | 0.00    | 0.00           |
|            |        |             |                    |  | -----     | -----     | -----   | -----          |
| 03-96032-0 |        |             |                    |  | -85125.01 | 171329.14 | 0.00    | 0.00           |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022053

Cost Detail Report for Specified Work Orders

| Work Order | Source | Po No..... | Vendor Name..... | Wo Part Desc             | Amount | Tax   | Freight | Tax On Freight |
|------------|--------|------------|------------------|--------------------------|--------|-------|---------|----------------|
| -----      | -----  |            |                  | -----                    | -----  | ----- | -----   | -----          |
| 03-96032-1 | IC     |            |                  | ABSORBENT, OIL/WATER     | 15.27  |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET MATERIAL, TAPE    | 45.87  |       |         |                |
| 03-96032-1 | IC     |            |                  | BOLT, 0.625-11 ALLOY     | 39.44  |       |         |                |
| 03-96032-1 | IC     |            |                  | SEAL, BY-PASS            | 0.00   |       |         |                |
| 03-96032-1 | IC     |            |                  | BUCKET, UTILITY          | 23.32  |       |         |                |
| 03-96032-1 | IC     |            |                  | STEEL, FLATBAR           | 15.25  |       |         |                |
| 03-96032-1 | IC     |            |                  | U-BOLT, 0.500-13 ALLOY   | 6.60   |       |         |                |
| 03-96032-1 | IC     |            |                  | BROOM, FLOOR             | 145.69 |       |         |                |
| 03-96032-1 | IC     |            |                  | COUPLING, HOSE & PIPE    | 3.03   |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET, 01.50 FLEX       | 2.08   |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET MATERIAL, TAPE    | 82.56  |       |         |                |
| 03-96032-1 | IC     |            |                  | PIPE, SEAMLESS           | 10.38  |       |         |                |
| 03-96032-1 | IC     |            |                  | SEAL, BY-PASS            | 0.00   |       |         |                |
| 03-96032-1 | IC     |            |                  | SEAL, BY-PASS            | 0.00   |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET MATERIAL, TAPE    | 9.17   |       |         |                |
| 03-96032-1 | IC     |            |                  | WASHER, FLAT             | 20.40  |       |         |                |
| 03-96032-1 | IC     |            |                  | COUPLING, HOSE & PIPE    | 8.06   |       |         |                |
| 03-96032-1 | IC     |            |                  | BOLT, 0.625-11 ALLOY     | 204.00 |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET, 02.00 FLEX       | 3.67   |       |         |                |
| 03-96032-1 | IC     |            |                  | NUT, 000.625             | 121.11 |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET, 02.00 FLEX       | -3.67  |       |         |                |
| 03-96032-1 | IC     |            |                  | GLASS, SIGHT             | 150.00 |       |         |                |
| 03-96032-1 | IC     |            |                  | NIPPLE, 00.75 THREADED   | 2.78   |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET MATERIAL, TAPE    | 91.73  |       |         |                |
| 03-96032-1 | IC     |            |                  | GLASSES, SAFETY          | 7.28   |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET, 04.00 FLEX       | 5.17   |       |         |                |
| 03-96032-1 | IC     |            |                  | LAMP, SODIUM             | 18.18  |       |         |                |
| 03-96032-1 | IC     |            |                  | STEEL, FLATBAR           | 12.16  |       |         |                |
| 03-96032-1 | IC     |            |                  | COUPLING, 00.75 THREADED | 1.81   |       |         |                |
| 03-96032-1 | IC     |            |                  | TY-RAP, CABLE            | 10.03  |       |         |                |
| 03-96032-1 | IC     |            |                  | COMPOUND, SEALANT        | 8.60   |       |         |                |
| 03-96032-1 | IC     |            |                  | U-BOLT, 0.375-16 ALLOY   | 3.36   |       |         |                |
| 03-96032-1 | IC     |            |                  | FITTING, BRASS FERRULE   | 0.82   |       |         |                |
| 03-96032-1 | IC     |            |                  | TAPE, DUCT               | 3.78   |       |         |                |
| 03-96032-1 | IC     |            |                  | VALVE, 00.75 GLOBE       | 91.67  |       |         |                |
| 03-96032-1 | IC     |            |                  | GASKET, SPIRAL WOUND     | 3.61   |       |         |                |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022054

Cost Detail Report for Specified Work Orders

| Work Order | Source | Po No..... | Vendor Name.....               | Wo Part Desc                             | Amount     | Tax   | Freight | Tax On Freight |
|------------|--------|------------|--------------------------------|--|------------|-------|---------|----------------|
| -----      | -----  |            |                                | -----                                    | -----      | ----- | -----   | -----          |
| 03-96032-1 | IC     |            |                                | VALVE, 01.00 BALL                        | 10.49      |       |         |                |
|            | **     |            |                                |  | -----      | ----- | -----   | -----          |
| 03-96032-1 | IC     |            |                                |  | 1173.70    | 0.00  | 0.00    | 0.00           |
| 03-96032-1 | JE     |            |                                | JOURNAL ENTRY 1004037                    | -464930.00 |       |         |                |
| 03-96032-1 | JE     |            |                                | JOURNAL ENTRY                            | 5.54       |       |         |                |
| 03-96032-1 | JE     |            |                                | JOURNAL ENTRY                            | 12.94      |       |         |                |
| 03-96032-1 | JE     |            |                                | JOURNAL ENTRY                            | 5.98       |       |         |                |
| 03-96032-1 | JE     |            |                                | JOURNAL ENTRY                            | 0.10       |       |         |                |
| 03-96032-1 | JE     |            |                                | JOURNAL ENTRY 1004037                    | 464930.00  |       |         |                |
|            | **     |            |                                |  | -----      | ----- | -----   | -----          |
| 03-96032-1 | JE     |            |                                |  | 24.56      | 0.00  | 0.00    | 0.00           |
| 03-96032-1 | PJ     | 04-45616-2 | TEI CONSTRUCTION SERVICES INC. | PAY AUTHORIZATION FOR U2 SECONDARY AIR H | -464930.00 |       |         |                |
| 03-96032-1 | PJ     | 04-45616-2 | TEI CONSTRUCTION SERVICES INC. | PAY AUTHORIZATION FOR U2 SECONDARY AIR H | 464930.00  |       |         |                |
|            | **     |            |                                |  | -----      | ----- | -----   | -----          |
| 03-96032-1 | PJ     |            |                                |  | 0.00       | 0.00  | 0.00    | 0.00           |
|            |        |            |                                |  | -----      | ----- | -----   | -----          |
| 03-96032-1 |        |            |                                |  | 1198.26    | 0.00  | 0.00    | 0.00           |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022055



Cost Detail Report for Specified Work Orders

| Work Order | Source | Po No..... | Vendor Name..... | Wo Part Desc | Amount | Tax   | Freight | Tax On Freight |
|------------|--------|------------|------------------|--------------|--------|-------|---------|----------------|
| -----      | -----  |            |                  | -----        | -----  | ----- | -----   | -----          |
| 03-96032-2 | LD     |            |                  | LABOR        | 336.12 |       |         |                |
|            | **     |            |                  |              | -----  | ----- | -----   | -----          |
| 03-96032-2 | LD     |            |                  |              | 336.12 | 0.00  | 0.00    | 0.00           |
|            |        |            |                  |              | -----  | ----- | -----   | -----          |
| 03-96032-2 |        |            |                  |              | 336.12 | 0.00  | 0.00    | 0.00           |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022056

Cost Detail Report for Specified Work Orders

| Work Order | Source |            |                  | Wo Part Desc   | Amount | Tax   | Freight | Tax On Freight |
|------------|--------|------------|------------------|----------------|--------|-------|---------|----------------|
| -----      | -----  | Po No..... | Vendor Name..... | -----          | -----  | ----- | -----   | -----          |
| 03-96032-3 | IC     |            |                  | STEEL, FLATBAR | 12.62  |       |         |                |
| 03-96032-3 | IC     |            |                  | STEEL, PLATE   | 168.09 |       |         |                |
|            | **     |            |                  |                | -----  | ----- | -----   | -----          |
| 03-96032-3 | IC     |            |                  |                | 180.71 | 0.00  | 0.00    | 0.00           |
| 03-96032-3 | JE     |            |                  | JOURNAL ENTRY  | 2.51   |       |         |                |
|            | **     |            |                  |                | -----  | ----- | -----   | -----          |
| 03-96032-3 | JE     |            |                  |                | 2.51   | 0.00  | 0.00    | 0.00           |
| 03-96032-3 | LD     |            |                  | LABOR          | 116.20 |       |         |                |
| 03-96032-3 | LD     |            |                  | LABOR          | 174.30 |       |         |                |
|            | **     |            |                  |                | -----  | ----- | -----   | -----          |
| 03-96032-3 | LD     |            |                  |                | 290.50 | 0.00  | 0.00    | 0.00           |
|            |        |            |                  |                | -----  | ----- | -----   | -----          |
| 03-96032-3 |        |            |                  |                | 473.72 | 0.00  | 0.00    | 0.00           |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022057

Cost Detail Report for Specified Work Orders

| Work Order | Source |             |                                | Wo Part Desc                             | Amount     | Tax   | Freight | Tax On Freight |
|------------|--------|-------------|--------------------------------|--|------------|-------|---------|----------------|
| -----      | -----  | Po No.....  | Vendor Name.....               | -----                                    | -----      | ----- | -----   | -----          |
| 03-96032-4 | IC     |             |                                | GASKET, 01.50 FLEX                       | 3.37       |       |         |                |
| 03-96032-4 | IC     |             |                                | TAPE, TEFLON                             | 0.26       |       |         |                |
| 03-96032-4 | IC     |             |                                | STEEL, FLATBAR                           | 17.45      |       |         |                |
| 03-96032-4 | IC     |             |                                | WIRE (MECH), MUSIC                       | 24.33      |       |         |                |
| 03-96032-4 | IC     |             |                                | INSULATION, CERAMIC FIBER                | 63.30      |       |         |                |
| 03-96032-4 | IC     |             |                                | GASKET, 04.00 FLEX                       | 8.43       |       |         |                |
| 03-96032-4 | IC     |             |                                | GASKET MATERIAL, TAPE                    | 187.04     |       |         |                |
| 03-96032-4 | IC     |             |                                | VALVE, 00.75 GLOBE                       | 15.94      |       |         |                |
| 03-96032-4 | IC     |             |                                | ABSORBENT, PIG PILLOW                    | 20.68      |       |         |                |
| 03-96032-4 | IC     |             |                                | FUSE, 025.00 AMP                         | 0.51       |       |         |                |
| 03-96032-4 | IC     |             |                                | CAP, 01.50 THREADED                      | 3.25       |       |         |                |
| 03-96032-4 | IC     |             |                                | U-BOLT, 0.500-13 ALLOY                   | 6.60       |       |         |                |
| 03-96032-4 | IC     |             |                                | INSULATION, BLANKET                      | 232.58     |       |         |                |
| 03-96032-4 | IC     |             |                                | ROPE, NYLON                              | 70.14      |       |         |                |
| 03-96032-4 | IC     |             |                                | REDUCER, 01.00 BUSHING                   | 4.77       |       |         |                |
|            | **     |             |                                |  | -----      | ----- | -----   | -----          |
| 03-96032-4 | IC     |             |                                |  | 658.65     | 0.00  | 0.00    | 0.00           |
| 03-96032-4 | JE     |             |                                | JOURNAL ENTRY                            | 12.91      |       |         |                |
|            | **     |             |                                |  | -----      | ----- | -----   | -----          |
| 03-96032-4 | JE     |             |                                |  | 12.91      | 0.00  | 0.00    | 0.00           |
| 03-96032-4 | PJ     | 05-45616-3  | TEI CONSTRUCTION SERVICES INC. | T&M WORK REQUIRED IN REMOVAL OF COLD INT | -22000.00  | 0.00  | 0.00    | 0.00           |
| 03-96032-4 | PJ     | 05-45616-7  | TEI CONSTRUCTION SERVICES INC. | SERVICE CONTRACT PAY AUTHORIZATION FOR U | -460416.24 |       |         |                |
| 03-96032-4 | PJ     | 05-45616-11 | TEI CONSTRUCTION SERVICES INC. | SERVICE CONTRACT PAY AUTHORIZATION FOR U | -115104.06 |       |         |                |
| 03-96032-4 | PJ     | 05-45616-7  | TEI CONSTRUCTION SERVICES INC. | SERVICE CONTRACT PAY AUTHORIZATION FOR U | 460416.24  |       |         |                |
| 03-96032-4 | PJ     | 05-45616-6  | TEI CONSTRUCTION SERVICES INC. | PAY AUTHORIZATION FOR U1 SECONDARY AIR H | 63946.70   |       |         |                |
| 03-96032-4 | PJ     | 05-45616-6  | TEI CONSTRUCTION SERVICES INC. | PAY AUTHORIZATION FOR U1 SECONDARY AIR H | -63946.70  |       |         |                |
| 03-96032-4 | PJ     | 05-45616-11 | TEI CONSTRUCTION SERVICES INC. | SERVICE CONTRACT PAY AUTHORIZATION FOR U | 115104.06  |       |         |                |
| 03-96032-4 | PJ     | 05-45616-3  | TEI CONSTRUCTION SERVICES INC. | T&M WORK REQUIRED IN REMOVAL OF COLD INT | 22000.00   |       |         |                |
| 03-96032-4 | PJ     | 05-45616-9  | TEI CONSTRUCTION SERVICES INC. | PAY AUTHORIZATION FOR T&M WORK ON UNIT 1 | 22000.00   |       |         |                |
| 03-96032-4 | PJ     | 05-45616-3  | TEI CONSTRUCTION SERVICES INC. | T&M WORK REQUIRED IN REMOVAL OF COLD INT | -22000.00  |       |         |                |
| 03-96032-4 | PJ     | 05-45616-3  | TEI CONSTRUCTION SERVICES INC. | T&M WORK REQUIRED IN REMOVAL OF COLD INT | 22000.00   | 0.00  | 0.00    | 0.00           |
|            | **     |             |                                |  | -----      | ----- | -----   | -----          |
| 03-96032-4 | PJ     |             |                                |  | 22000.00   | 0.00  | 0.00    | 0.00           |

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022058

Cost Detail Report for Specified Work Orders

| Work Order | Source | Po No..... | Vendor Name..... | Wo Part Desc | Amount    | Tax       | Freight | Tax On Freight |
|------------|--------|------------|------------------|--------------|-----------|-----------|---------|----------------|
| -----      | -----  |            |                  | -----        | -----     | -----     | -----   | -----          |
| 03-96032-4 |        |            |                  |              | 22671.56  | 0.00      | 0.00    | 0.00           |
|            |        |            |                  |              | =====     | =====     | =====   | =====          |
|            |        |            |                  |              | -60445.35 | 171329.14 | 0.00    | 0.00           |

251 records listed.

Report Name: MO.COST.DETAIL.WITH.SUBS

IP7\_022059

11/5/03 CO

## INTERMOUNTAIN POWER SERVICE CORPORATION

November 4, 2003

Timothy J. McNulty  
Alstom Power Inc.  
Air Preheater Company  
P.O. Box 372  
Wellsville, NY 14895

Dear Mr. McNulty:

### Letter of Intent for Purchase of SAH Modification Hardware

IPSC hereby issues this Letter of Intent to award Alstom Power Inc. Air Preheater Company the contract to supply SAH Modification Hardware per Air Preheater Company's proposal 3GS-1034B, IPSC Specification 45615, and Contract 04-45615. IPSC authorizes Air Preheater Company to proceed on the basis of the aforementioned proposal, specification, and contract, based on the terms and conditions stated therein. IPSC is providing this Letter of Intent in lieu of a purchase order to ensure delivery of the first two sets of Secondary Air Heater Modification Hardware by February 21, 2004. The purchase order will be supplied once IPSC Contract 04-45615 has been signed by both IPSC and Alstom Power.

This letter of intent ensures that IPSC will negotiate, in good faith, all terms and conditions of the aforementioned contract. This letter also ensures that IPSC shall pay for all reasonable expenses encumbered by Alstom Power, should IPSC fail to contract with Alstom Power for the SAH Modification Hardware, as described in IPSC Specifications 45615 and Air Preheater Company's proposal 3GS-1034B.

Payments under the subject contract shall be per the following payment schedule:

#### Unit #2

Payment #1: \$295,780 Due Upon Submittal of Installation Drawings

Payment #2: \$591,560 Due Upon Receipt of Raw Materials

Payment #3: \$261,460 Invoiced Upon Final Shipment of Unit 2 Hardware

Payment #4: \$53,700 Due Upon Completion of Installation

Payment #5: \$276,400 Due on July 1, 2004

Total for Unit 2: \$1,478,900

November 4, 2003  
Timothy J. McNulty  
Page 2

**Unit #1**

Payment #1: \$304,040 Due Upon Release to Shop

Payment #2: \$608,080 Due Upon Receipt of Raw Materials

Payment #3: \$456,060 Invoiced Upon Final Shipment of Hardware

Payment #4: \$152,020 Due 60 Days After Completion of Installation

Total for Unit 1: \$1,520,200

IPSC agrees that the final negotiated terms and conditions shall apply from the date shown on this letter forward.

Sincerely,



George W. Cross  
President and Chief Operations Officer



BK/JHN:jmg

CC: Ralph Newberry

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IP7\_022061

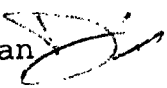
7/29/04 CS

**MEMORANDUM**

**INTERMOUNTAIN POWER SERVICE CORPORATION**

TO: George W. Cross

Page 1 of 2

FROM: Dennis K. Killian 

DATE: July 28, 2004

SUBJECT: Recommended Air Preheater Sootblower Testing for Unit 2

It is our recommendation that testing be performed to optimize the sootblowing pressure and frequency for the Unit 2 Secondary Air Heaters. This memo outlines the proposed test plan for achieving these recommendations.

Currently, sootblowing is performed at a pressure of 150 psig with a frequency of about once per shift (three month average is every 18 hrs) for the Secondary Air Heaters. With the conversion of Unit 2 Secondary Air Heaters to the new "Clearflow" configuration, it is the OEM's recommendation to reduce sootblowing pressure and frequency. The "Clearflow" arrangement is easier to clean than the original element configuration, because there are fewer obstructions to the blowing medium and each of the element layers is now directly exposed to the blower nozzles. Any steps IPSC can take to optimize blowing pressure and frequency will extend the life of the new SAH element.

**Proposed Test Matrix (Each Test to Run for 1 Week)**

| Start Date/Time          | Blowing Pressure | Blowing Frequency | When               |
|--------------------------|------------------|-------------------|--------------------|
| 8/3/04 - 0900<br>1 week  | 150 psig         | Once/Shift        | 0900 &<br>2100 hrs |
| 8/10/04 - 0900<br>1 week | 130 psig         | Once/Shift        | 0900 &<br>2100 hrs |
| 8/17/04 - 0900<br>1 week | 130 psig         | Once/24hrs        | 0900               |

During this test period we ask that blowing be according to the above schedule, and not postponed until completion of the backpass sootblowing cycle. Data during the test will be evaluated to verify that the difference between the daily minimum and maximum air side DP values are maintained below the historical value of 2.15 INWC.

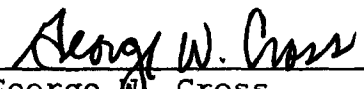
**IP7\_022062**

This testing will require the support of Maintenance personnel to modify the Unit 2 SAH sootblowing pressures to 130 psig, the morning of August 10 before 9:00 A.M.

Please indicate your approval for this testing, by signing below.

Any questions may be directed to Bret Kent at ext. 6447.

Approved by:

  
\_\_\_\_\_  
George W. Cross  
President and Chief Operations Officer

BK/JKH:jmj

cc: Jon Finlinson  
Stan Smith



3/29/05 CO  
also faxed 3/28/05

## INTERMOUNTAIN POWER SERVICE CORPORATION

March 28, 2005

File: IGS03-02

Joseph A. Smith  
Alstom Power Inc., Air Preheater Company  
3020 Truax Road  
PO Box 372  
Wellsville, NY 14895

Reference: IPSC Contract 04-45615

Dear Mr. Smith:

### Release of Damaged Air Heater Baskets to Insurance Company

This letter is to request the release of the air heater baskets damaged on January 20, 2005, to Carrier Claims Service.

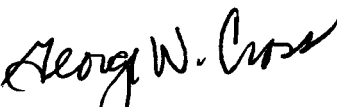
The load of qty (24) 'E' style baskets will be salvaged by Carrier Claims Service to offset the insurance claim.

The contact at Carrier Claims Service:

Jerry Reiss  
PO Box 848  
Matawan, NJ 07747  
ph: 800-444-0848  
fx: 732-845-2320

Reference Claim No. 050-135

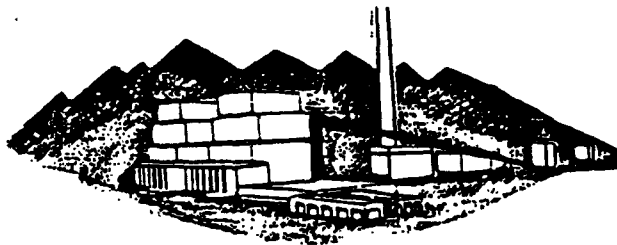
Sincerely,



George W. Cross  
President and Chief Operations Officer

*J.B. for J.K.K.*  
BK/JKH:co

cc: Jerry Reiss, Carrier Claims Service  
George W. Cross, IPSC  
Bret Kent, IPSC  
Ralph Newberry, IPSC  
Contract File, IPSC Purchasing



# INTERMOUNTAIN POWER SERVICE CORPORATION

CONFIRMATION: (435) 864-4414 EXT. 6577

FACSIMILE: (435) 864-6670

## FACSIMILE COVER SHEET

DATE: 3/28/05

TO: COMPANY NAME: Carrier Claims Service  
ATTENTION: Jerry Reiss  
FACSIMILE #: 732 845-2320

FROM: Brett Kent EXT: 6447  
DEPT: Tech Services

PAGES TO FOLLOW: 1

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

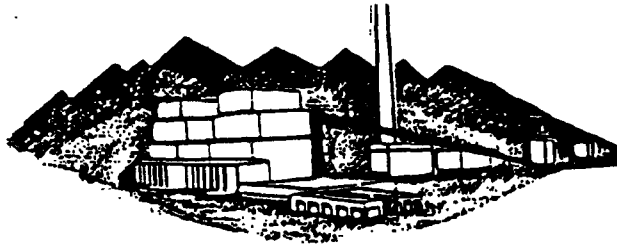
DATE & TIME SENT: 3.28.05 PM 4:20

CONFIRMATION BY: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

850 WEST BRUSHWELLMAN ROAD, DELTA, UT 84624-9546

IP7\_022065



# INTERMOUNTAIN POWER SERVICE CORPORATION

CONFIRMATION: (435) 864-4414 EXT. 6577

FACSIMILE: (435) 864-6670

## FACSIMILE COVER SHEET

DATE: 3/28/05

TO: COMPANY NAME: Alstom  
ATTENTION: Joseph Smith  
FACSIMILE #: 585 593-7566

FROM: Bhet Kent EXT: 6447  
DEPT: Tech Services

PAGES TO FOLLOW: 1

COMMENTS: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DATE & TIME SENT: 3-28-05 4:18 PM

CONFIRMATION BY: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_


850 WEST BRUSHWELLMAN ROAD, DELTA, UT 84624-9546

IP7\_022066

9/26/03 jmg

**MEMORANDUM**

INTERMOUNTAIN POWER SERVICE CORPORATION

TO: Neil H. Clay Page 1 of 1  
FROM: Dennis K. Killian   
DATE: September 24, 2003  
SUBJECT: Recommendation for Source Directed Contract  
Secondary Air Heater Replacement Hardware (IGS03-02)

We recommend a source directed purchase of Secondary Air Heater Element Replacement Hardware (IGS03-02) from Alstom Power - Air Preheater Company. Alstom Power - Air Preheater Company is the OEM of IPSC's 33-1/2-VI-64 parallel Lungstrom/CE Secondary Air Heaters.

This recommendation is the result of the evaluation done during the justification of this project. At that time it was determined that there is not another company currently manufacturing upgrade elements for our Air Heaters.

Any questions may be directed to Bret Kent, ext. 6447.

DBK/JHN:jmg

cc: Ralph Newberry

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IP7\_022067

11/10/03 CO

**MEMORANDUM**

**INTERMOUNTAIN POWER SERVICE CORPORATION**

TO: George W. Cross *duy*

Page 1 of 1

FROM: Dennis K. Killian *[Signature]*

DATE: November 7, 2003

SUBJECT: Revised Economics for SAH Element Replacement  
Capital Project IGS03-02

In accordance with the Letter of Intent issued to Alstom Power Air Preheater Company for purchasing SAH Hardware, we are providing the following updated economic justification which takes into consideration the cost escalation of the project. The original budgeted amount for hardware was \$2,400,000 (both units). The increased amount as shown on the Letter of Intent is \$2,999,100. The primary reasons for the increase came from the cost of the replacement element material and a 60 percent increase in the number of transport trucks.

Benefit/Cost: 2.92  
Rate of Return: 33%  
Payback Period: 3.3 Years  
Economic Life: 15 Years  
PV Savings: \$29,944,877

We have \$1,750,000 budgeted for this project in 2003-04 and Alstom has agreed to defer a payment to insure that we stay under budget. The budget for 2004-05 will have to be increased to cover the deferred payment and the increase in that year. We will postpone or reduce the scope of other projects to make sure that the 2004-05 budget remains under the amount on the preliminary budget submitted in September.

Four requisitions have been created to date for the associated costs of this project.

- 190854:** Requisition for hardware based on original Alstom bid - \$2,405,200
- 194448:** Requisition for installation - \$1,100,000
- 194468:** Requisition for additional cost of hardware per Alstom proposal 3GS-1034B - \$410,925
- 194470:** Requisition for transportation cost - \$336,100

**IP7\_022068**

Attached to this memo:

Requisition 194468 for your approval.  
Requisition 194470 for your approval.  
Updated Capital Project Package for your approval.

Any questions regarding this project may be directed to Bret Kent  
at ext. 6447.

DBK/JKH:jmg

Attachments

**IP7 022070**





**INTERMOUNTAIN POWER SERVICE CORPORATION**

**CAPITAL PROJECT #IGS03-02**

W.O. # 03-96032-0

Date November 4, 2003

|                     |   |                        |
|---------------------|---|------------------------|
| PROJECT             | Title: <u>Air Heater Element Replacement</u>  |                        |
|                     | Budget Source: <u>2003-2004 Identified Capital Projects</u>   |                        |
| APPROVAL            | <u>Superintendent Technical Services</u>  |                        |
|                     | Signed: <u>[Signature]</u>  | Dated: <u>11-7-03</u>  |
|                     | <u>IPSC Pres. &amp; COO Approval</u>  |                        |
|                     | Signed: <u>[Signature]</u>  | Dated: <u>11/10/03</u> |
|                     | Route: 1. Package to Operations for approval to proceed (signature below)<br>2. Requisitions and copy of signed approval form to Purchasing |                        |
| PROJECT INFORMATION | IPSC Contact: <u>Bret Kent</u> Ext. <u>6447</u>   |                        |
|                     | Total Est. Costs: <u>\$4,252,123</u> Scheduled Start: <u>12/1/03</u>  |                        |
|                     | (Mtl: <u>\$3,152,123</u> Labor: <u>\$1,100,000</u> Engring. \$ <u>          </u> )  |                        |
| INSTALLATION        | 'Preconstruction Appvl (Oper.)  | Date <u>          </u> |
|                     | Tagging 'CONSTRUCTION' update   | Date <u>          </u> |
|                     | Work Pkg. to Planning (Engr.)   | Date <u>          </u> |
|                     | QA/QC Completion (QA/QC Engr.)  | Date <u>          </u> |
|                     | Startup Complete (IPSC Engr.)   | Date <u>          </u> |
|                     | Install. Complete (Planner)   | Date <u>          </u> |
|                     | As-Built Pkg to Engr. (Planner)   | Date <u>          </u> |
|                     | Released to Oper. (IPSC Engr.)  | Date <u>          </u> |
| PROJECT CLOSEOUT    | Closeout Complete (IPSC Engr.)  | Date <u>          </u> |
|                     | Tagging 'AS-BUILT' update   | Date <u>          </u> |
|                     | Project Complete (GWC)  | Date <u>          </u> |

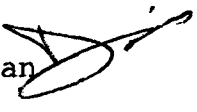
**IP7 022072**

10/7/04 CO

## MEMORANDUM

## INTERMOUNTAIN POWER SERVICE CORPORATION

TO: George W. Cross

Page 1 of 2FROM: Dennis K. Killian 

DATE: October 6, 2004

SUBJECT: Recommended Secondary Airheater Sootblowing Procedure

It is our recommendation that the SAH sootblowing procedures be modified to blow once per 24 hours at 130 psig. This procedure can be implemented immediately on Unit 2. We ask that blowing be as consistent as reasonably possible on the 24-hour schedule. An identical blowing schedule for Unit 1 Secondary Air Heater Sootblowers can be implemented upon completion of the SAH upgrade in March 2005.

The current SAH sootblowing procedure specifies a pressure of 150 psig with a frequency of once per shift. With the conversion of Unit 2 SAH's to the new "Clearflow" configuration, it was the OEM's recommendation to reduce sootblowing pressure and frequency. The "Clearflow" arrangement is easier to clean than the original element configuration, because there are fewer obstructions to the blowing medium and each of the element layers is now directly exposed to the blower nozzles. Any steps IPSC can take to optimize blowing pressure and frequency without degrading outlet temperature performance will extend the life of the new SAH element and reduce auxiliary steam consumption.

This recommendation is the result of the testing performed during August 2004. (Reference memorandum dated July 28, 2004 from Dennis Killian to George Cross titled "Recommended Air Preheater Sootblower Testing for Unit 2".) Data from the test period was evaluated to verify that the difference between the daily minimum and maximum gas side DP values were maintained below the historical value of 2.15 INWC. The results follow:

Test Matrix

| Start Date/Time          | Blowing Pressure | Blowing Frequency | Daily Min/Max Differential |
|--------------------------|------------------|-------------------|----------------------------|
| 8/3/04 - 0900<br>1 week  | 150 psig         | Once/Shift        | 0.25 INWC                  |
| 8/10/04 - 0900<br>1 week | 130 psig         | Once/Shift        | 0.25 INWC                  |
| 8/17/04 - 0900<br>1 week | 130 psig         | Once/24hrs        | 0.30 INWC                  |

IP7\_022073

This data clearly demonstrates the ability to control air heater differential pressure within a tight range despite the less frequent, lower pressure blowing procedures. The low, absolute values of this change in differential pressure is indicative of significant improvements in air heater and fan performance.

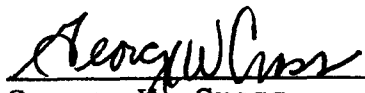
Performance testing has shown that the modified air heaters have met contract guarantees. Data from the test period shows that the increase of 0.05 INWC in the daily min/max differential results in an unmeasurable effect on air heater performance. The verified performance improvements achieved with these modifications are as follows (comparison data shown is for a normalized unit load of 900MW):

- Decrease in average gas side differential pressure of 3.65 INWC.
- Increase in air temperature leaving SAH of 21°F.
- Decrease in gas temperature leaving SAH of 18°F.

These performance improvements result directly in increased boiler efficiency and recovered fan performance.

Please indicate your approval for this procedural change, by signing below. Any questions may be directed to Bret Kent at ext. 6447.

Approved by:



George W. Cross  
President and Chief Operations Officer

DBK/JKH:jmj

cc: Jon Finlinson

12/23/04 jmj

**MEMORANDUM**

**INTERMOUNTAIN POWER SERVICE CORPORATION**

TO: George W. Cross  
FROM: Dennis K. Killian  
DATE: December 21, 2004

Page 1 of 2

SUBJECT: Unit 1 Outage SAH Modification Laydown Plan

Please sign below indicating your approval for the proposed laydown and logistics plan, as described in this memo and the attached drawing.

Because of the considerable quantity of material (approximately 44 semi loads) involved in the Secondary Airheater modifications and the lack of laydown area around Unit 1, we are seeking special consideration for the 2005 Unit 1 outage. This plan was developed in a meeting attended by Operations, Technical Services, Maintenance, Safety, Warehouse, and the contractors involved.

**Logistics:**

**Preoutage**

During the period of December 20, 2004 to February 18, 2005, approximately 44 semi loads of material will arrive onsite. Until about February 1, 2005 IPSC Warehouse personnel will be tasked with receiving and unloading these trucks. After February 1, 2005, TEI will have personnel onsite to unload the trucks.

**Outage**

Approximately 60 semi trailer/roll off containers of scrap metal will be removed from the site during the month of March 2005. The majority of this material will be taken offsite during the first week of the outage. To facilitate this, Western Metals Recycling will have a driver onsite 24 hours a day/7 days a week for the first week, to position trailers as needed.

The movement of airheater baskets from the staging areas described below, through the Fan Room, and up to the airheater deck on the 5<sup>th</sup> floor of the boiler will be done during the third week of the outage. This involves the rapid movement of material into the unit. This is a safety concern with the amount of traffic on the road east of the Unit 1 Baghouse. For this reason, it is our intent to barricade the road at the south-east corner of the Unit 1 Baghouse. This will allow for quicker movement of the material from the staging area into the unit.

**IP7\_022075**

For about a one week period of time, traffic to the GSB Warehouse/Weld Shop will need to be rerouted around the north end of the tank yard.

**Staging:**

Areas designated for staging are shown on the attached drawing and are described below.

- Across the road (north) of the GSB Warehouse lay down yard: This area will be used for initial unloading and staging of airheater baskets.
- East and west sides of Unit 1 Baghouse: This area will be used to organize the airheater baskets in the order they will be taken into the unit.
- East side of Unit 2 Baghouse: This area will be used as needed to stage additional airheater baskets that will be taken into the unit through the westside fan room entrance.
- East and west side Unit 1 Fan Room entrances: These areas will be used to stage during movement of the baskets into the unit. These areas will otherwise be open and unobstructed.

**Trailer Location:**

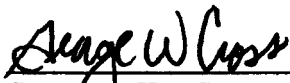
Contractor trailers will be located west of Unit 2. TEI will have an office trailer and a tool trailer. Safeway Scaffolding will have an office trailer.

**Scrap Metal Disposal:**

Full trailers will be staged west of Unit 2 Baghouse. Two to four empty trailers will be positioned between the Unit 1 Fan Room and Baghouse.

Any questions about this memo may be directed to Bret Kent at extension 6447.

Unit 1 SAH Modification Laydown Plan Approved By:



George W. Cross  
President and Chief Operations Officer

 DBK/JKH:jmj

|                      |                |
|----------------------|----------------|
| cc: Jon A. Finlinson | Stan L. Smith  |
| Joe D. Hamblin       | Richard Schmit |
| Ken Lebbon           | Will Lovell    |
| Vance Bishop         | Gary Goold     |



## Engineering Services Inspection Report

|              |   |       |                      |
|--------------|---|-------|----------------------|
| System:      | <u>SGB-AHT-1A/1B</u>                          | Date: | <u>March 3, 2004</u> |
| Description: | <u>Unit 2 Secondary Air Heaters 1A and 1B</u> | Page: | <u>1 of 3</u>        |
| By:          | <u>Bret Kent</u>                              |       |                      |

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The SAH's were inspected by Bret Kent, and Harlan Finnemore (Alstom Feild Service Engineer).

Most of the items normally found during an inspection are being addressed as a result of the "Clearflow" conversion. Those items that will not be covered are listed below.

### **The Following Work Should Be Done This Outage**

- a. **SAH 1A**
  - i. See Item 3.
- b. **SAH 1B**
  - i. 1B rotor drive has been experiencing noisy operation. Based on a minimal indication of internal problems from vibration data, it is believed that the reducer is located too close to the rotor. Maintenance has confirmed that tooth wear corroborates this. The reducer should be moved out to provide 29/32" clearance from the root of the gear teeth to the outside diameter of the rack pins.
  - ii. The cold end radial seals are in good condition, but the 1B cold end radial seals need to be re-set. This takes as much time as to change them completely, so it is recommended that they be replaced.
- c. **WORK TO BE DONE ON BOTH SAH'S**
  - i. There is quite a bit of oil leakage from both SAH drive gear boxes. It appears as though most of the oil originates from the breathers. It is recommended that the breathers be raised approximately 12" above the top of the boxes.
  - ii. Elevation of the hot end sector plates appear very inconsistent. Check and refine nominal cold position prior to setting hot end radial seals.
  - iii. The diaphragm seals were not ordered or supplied. Those at the hot end are in good condition and have been salvaged, Those at the cold end will require patching as the soot blowing medium has eroded various small holes through the faces of the seals. Use ~ #12 ga. Strap 3/4" wide to patch. Or supply new from Warehouse.



## Engineering Services Inspection Report

|              |   |       |                      |
|--------------|---|-------|----------------------|
| System:      | <u>SGB-AHT-1A/1B</u>                          | Date: | <u>March 3, 2004</u> |
| Description: | <u>Unit 2 Secondary Air Heaters 1A and 1B</u> | Page: | <u>2 of 3</u>        |
| By:          | <u>Bret Kent</u>                              |       |                      |

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### WORK TO BE SCHEDULED FOR FUTURE UNIT 2 OUTAGE

- a. The hot end sector plate static sealing curtains on both SAH's are in poor condition and should be scheduled for replacement next outage. It is recommended that the new static seals be installed on the air side (air outlet duct) and the existing be removed from their present location. This will reduce installation time for the new seals and help to reduce ash accumulation problems on top of the sector plates and within the box beneath the sector plate drives.

NOTE: At this time there are no additional action items for the secondary air preheaters. While it is recognized that full access to all areas is not feasible due to the work being performed, all areas where serious problems are anticipated have been inspected.

### SECONDARY AIR HEATER MODIFICATIONS

Secondary Air Heaters 1A and 1B have been modified on Unit 2 during the current outage. Unit 1 Secondary Air Heaters are scheduled to be modified during the upcoming 2005 outage. The modifications include redesign of the rotor frame and replacement of the air heater element with a design proven at several sites to provide improved performance.

The existing air heater rotor element (heat transfer plate surface) is nearing the end of its useful life. The current state of the air heater surface is such that unless the element is replaced significant degradation resulting in unacceptable air heater differentials and compromised gas flow would result within 3 years.

The new air heater internals have been bid with performance guarantees and associated liquidated damages for non-compliance. The performance guarantees are as follows:

| <u>Parameter</u>         | <u>Performance Guarantee</u> |
|--------------------------|------------------------------|
| Air Entering Temperature | 67°F                         |
| Air Leaving Temperature  | 698°F                        |
| Gas Entering Temperature | 751°F                        |
| Gas Leaving Temperature  | 282°F (without leakage)      |
| Gas Leaving Temperature  | 272°F (with leakage)         |
| Average Cold End Temp.   | 175°F                        |
| Pressure Drop Air Side   | 3.50 inches w.g.             |
| Pressure Drop Gas Side   | 5.65 inches w.g.             |



## Engineering Services Inspection Report

|              |   |       |                      |
|--------------|---|-------|----------------------|
| System:      | <u>SGB-AHT-1A/1B</u>                          | Date: | <u>March 3, 2004</u> |
| Description: | <u>Unit 2 Secondary Air Heaters 1A and 1B</u> | Page: | <u>3 of 3</u>        |
| By:          | <u>Bret Kent</u>                              |       |                      |

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|                       |                   |
|-----------------------|-------------------|
| Hot End Differential  | 7.60 inches w.g.  |
| Cold End Differential | 16.75 inches w.g. |

The new air heater design consists of two large (deep) layers of air heater element in place of the four shallower layers previously used. This modification will reduce restriction to gas and air flow and will allow for more effective cleaning with each blowing sequence. The OEM is in fact recommending a reduction in both cleaning pressures and frequencies.

The new design maintains essentially the same overall depth within the air heater rotor. The sealing system and associated hardware, therefore, remains unchanged. The single exception to that rule is the addition of seal clearance gages. These gages will be installed, (4 on the hot end of each secondary air heater and 2 on the cold end), in order to maintain a clear, on-line indication of the radial seal gap. Leakage through the air seals is a significant issue in maintaining boiler performance. The gages will allow us to minimize air heater leakage and maximize performance of the air heaters and the steam generator.

### Operational Guidance

A brief writeup by from the OEM is attached which offers several points of operational guidance in maintaining optimal performance within the air heaters. Based on these recommendations Engineering Services is preparing an test program for staff approval that would increment down both the sootblowing pressure and frequencies with a goal of eventually blowing only once per 24hr shift at a pressure of approximately 130psi on the hot end and even less on the cold end. As always however, continuous blowing is recommended on startup.

The sector plate sealing system remains unchanged by these modifications. Engagement and operation of this system is the same as it has been previously.

Because of the increased thermal efficiency air heater gas outlet temperatures may drop below the previously established 300°F limit. With the several uprates that have occurred at IGS and the thermal cycle improvements implemented at the facility, we are anticipating that a minimum load of approximately 350MW will be required to maintain a consistent outlet temperature of 300°F. This should not be a significant issue on a base loaded unit such as ours.





## Engineering Services Inspection Report

|              |   |       |                      |
|--------------|---|-------|----------------------|
| System:      | <u>SGB-AHT-1A/1B</u>                          | Date: | <u>March 3, 2004</u> |
| Description: | <u>Unit 2 Secondary Air Heaters 1A and 1B</u> | Page: | <u>1 of 2</u>        |
| By:          | <u>Bret Kent</u>                              |       |                      |

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### Punch List

The PAH's were inspected by Bret Kent, and Harlan Finnemore (Alstom Feild Service Engineer).

Most of the items normally found during an inspection are being addressed as a result of the "Clearflow" conversion. Those items that will not be covered are listed below.

1. **SAH 1A**
  - a. See Item 3.
2. **SAH 1B**
  - a. 1B rotor drive has been experiencing noisy operation. Based on a minimal indication of internal problems from vibration data, it is believed that the reducer is located too close to the rotor. Maintenance has confirmed that tooth wear corroborates this. The reducer should be moved out to provide 29/32" clearance from the root of the gear teeth to the outside diameter of the rack pins.
  - b. The cold end radial seals are in good condition, but the 1B cold end radial seals need to be re-set. This takes as much time as to change them completely, so it is recommended that they be replaced.
3. **WORK TO BE DONE ON BOTH SAH'S**
  - a. There is quite a bit of oil leakage from both SAH drive gear boxes. It appears as though most of the oil originates from the breathers. It is recommended that the breathers be raised approximately 12" above the top of the boxes.
  - b. Elevation of the hot end sector plates appear very inconsistent. Check and refine nominal cold position prior to setting hot end radial seals.
  - c. The diaphragm seals were not ordered or supplied. Those at the hot end are in good condition and have been salvaged, Those at the cold end will require patching as the soot blowing medium has eroded various small holes through the faces of the seals. Use ~ #12 ga. Strap 3/4" wide to patch. Or supply new from Warehouse.
4. **WORK TO BE SCHEDULED FOR FUTURE UNIT 2 OUTAGE**



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|              |   |       |                      |
|--------------|---|-------|----------------------|
| System:      | <u>SGB-AHT-1A/1B</u>                          | Date: | <u>March 3, 2004</u> |
| Description: | <u>Unit 2 Secondary Air Heaters 1A and 1B</u> | Page: | <u>2 of 2</u>        |
| By:          | <u>Bret Kent</u>                              |       |                      |

- 
- a. The hot end sector plate static sealing curtains on both SAH's are in poor condition and should be scheduled for replacement next outage. It is recommended that the new static seals be installed on the air side (air outlet duct) and the existing be removed from their present location. This will reduce installation time for the new seals and help to reduce ash accumulation problems on top of the sector plates and within the box beneath the sector plate drives.

NOTE: At this time there are no additional action items for the secondary air preheaters. While it is recognized that full access to all areas is not feasible due to the work being performed, all areas where serious problems are anticipated have been inspected.



## Engineering Services Inspection Report

|              |                                 |       |              |
|--------------|---------------------------------|-------|--------------|
| System:      | 1SGB-AHT-1A/B                   | Date: | May 15, 2002 |
| Description: | Unit 1 Secondary Air Heater A/B | Page: | 1 of 3       |
| By:          | Bret Kent                       |       |              |

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### GUIDE BEARING AREA:

- **Both SAH's:** No problems were noted during the hot walk down.

### GAS INLET DUCT:

- **Both SAH's:** Prior to shutdown maximum sector plate deflections noted were:
  - 1A East: 1.212"
  - 1A West: 1.232"
  - 1B East: 1.102"
  - 1B West: 1.100"

It was noted that the radial seals were heavily distorted from contacting the sector plates. Need to verify that sector plate back off controls are working properly.
- **Both SAH's:** The sector plate static sealing curtains are in poor condition and should probably be replaced this or next outage. The packing was falling or had fallen out and there is a hole about 24" long eroded through the packing cover on SAH 1A west sector plate about 2/3rd's the way out from the post.
- **SAH 1A:** The bypass seal support angle adjacent the duct center line is poorly supported and in poor condition. This will be addressed by scheduled work during the "Clearflow" conversion..
- **Both SAH's:** The duct wall has broken loose from the flange plate below the west outboard end of the pipe brace at the duct center line. The outboard ends of the pipe braces should be gusseted and the wall re-welded to the flange plate.

### AIR OUTLET DUCT:

- **Both SAH's:** In SAH 1A, a hairline crack was found on the east side at the bottom of the hot end center section just inboard of the 45 degree seismic brace weld. This should be arc gouged and rewelded. In addition, reinforce this area by adding a 1/2" thick lap plate after the repair is accomplished. On SAH 1B cracking in this area was severe at both ends of the gas and air side ducts. The repair will be more extensive and also involves the static sealing curtain. Again reinforcement should be added after the weld repairs are made. In addition, the radiused corner gussets will require re-welding.
- **SAH 1A:** Cracks were found in the duct wall below the outboard ends of the east 45 degree pipe brace and the east pipe brace adjacent the duct center line. These should be repaired and the outboard ends of the pipe braces gusseted. The same gussets should be added to SAH 1B to avoid future cracking.
- **Both SAH's:** There were areas where the by-pass seal support angle were not tight to the flange plate. This will be addressed by scheduled work during the "Clearflow"



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| System:      | <u>1SGB-AHT-1A/B</u>                   | Date: | <u>May 15, 2002</u> |
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- conversion.
- **Both SAH's:** The stuffing boxes at the inboard ends of the sector plates should be re-packed with ceramic wool.

### HOT END OF ROTOR:

- **Both SAH's:** All problems will be addressed by scheduled work during the "Clearflow" conversion.

### ROTOR HOUSING AREA:

- **Both SAH's:** The axial seals are in good condition and should not require adjustment or replacement.
- **Both SAH's:** Noted holes through the axial seal plate static curtains near the cold end where the seal is packed with ceramic wool. Packing boxes should be re-packed.
- **Both SAH's:** The pin rack is in good condition.
- **SAH 1A:** The east axial seal plate air side adjusters are starting to develop some excessive clearances. This may require some action within the next few years if clearances continue to increase.

### ROTOR DRIVE AREA:

- **Both SAH's:** No problems noted during the hot walk down, other than the usual oil leakage.

### SUPPORT BEARING AREA:

- **Both SAH's:** No problems were noted during the hot walk down.

### COLD END OF SAH:

- **Both SAH's:** The cold end radial seals are in excellent condition, as are the by-pass seals. The only exception is one small area on SAH 1B at the gas outlet duct center line where a hole has been eroded through by the soot blower. The seals in this local area will be replaced by scheduled work during the "Clearflow" conversion.
- **Both SAH's:** The cold end diaphragm seals are thinning. These seals will be replaced by scheduled work during the "Clearflow" conversion.

### SOOT BLOWERS:

- **Both SAH's:** The outer pair of nozzles on both retractable soot blowers should be replaced as the throats are moderately to severely eroded. The lance on SAH 1B also has



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- 
- several through holes - adjacent the outer nozzle pair. This is what has caused the by-pass seal damage mentioned above.
- **Both SAH's:** It is believed that inner nozzle of the retractable devices are too large. The nozzle specified on OEM prints is larger at the inner location than at the intermediate. This appears to be incorrect. Diamond Power has been contacted. Final information will be passed on to planning.
  - **Both SAH's:** Changes per memo dated Oct 6, 2004 (D. Killian to G. Cross) should be implemented. Soot blowing pressure reduced to 130 psig and blown once per 24 hours. Memo attached for reference.



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## Engineering Services Inspection Report

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